Medical TIMES

THE JOURNAL OF GENERAL PRACTICE

VOL. 82 JANUARY 1954 NO. 1

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GANTRICILLIN-300 provides 300,000 units of penicillin plus 0.5 Gm of Gantrisin, the single, highly soluble sulfonamide. Especially useful in conditions in which the causative organisms are more susceptible to the combination than to either Gantrisin or penicillin alone.

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Herrold, R. D.: South. Clin. North America *30*:61, 1950.

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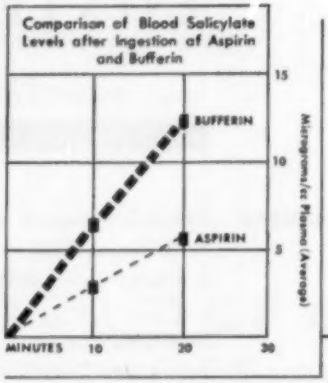
Faster Pain Relief with BUFFERIN®

1 ACTS TWICE AS FAST AS ASPIRIN

The antacids in Bufferin speed its pain-relieving ingredients through the stomach and into the blood stream. Actual chemical determinations show that within ten minutes after Bufferin is ingested blood salicylate levels are higher than those attained by aspirin in twice this time.[1]



2 DOES NOT UPSET THE STOMACH

Bufferin's antacid ingredients protect the stomach against aspirin irritation. This has been clinically demonstrated on hundreds of patients.

in usual doses

In a series of 238 cases, 22 had a history of gastric distress due to aspirin but only one reported any distress after taking 2 Bufferin tablets (equivalent to 10 grains of aspirin).[2]

in large doses

In a recent study group, 1006 patients received, over a 24 hour period, 12 Bufferin tablets (equivalent to 60 grains of aspirin). Although 72 had a history of being sensitive to aspirin, only 18 reported any gastric side-effect with Bufferin.[2]

1. Effect of Buffering Agents on Absorption of Acetylsalicylic Acid. J. Am. Pharm. Assoc., Sc. Ed. 39:21, Jan. 1950
2. Gastric Tolerance for Aspirin and Buffered Aspirin. Ind. Med. 20:480, Oct. 1951

INDICATIONS: Simple headaches, neuralgias, dysmenorrhea, muscular aches and pains, discomfort of colds and minor injuries. Particularly useful when gastric hyperacidity is a complication. Useful for relieving pain in the treatment of arthritis.

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OBOLIP

Each capsule contains:

phenobarbital	16 mg.
WARNING: may be habit-forming	
d-amphetamine sulfate	5 mg.
choline bitartrate	400 mg.
dl-methionine	150 mg.
vitamin B_{12} U.S.P.	4 mcg.
methyl cellulose	160 mg.

Dosage: One capsule three times daily, with a glass of water one-half hour before meals.

Prescribe OBOLIP *in bottles of 50 capsules.*

*Zelman, S.: Arch. Int. Med. 90:141, 1952.

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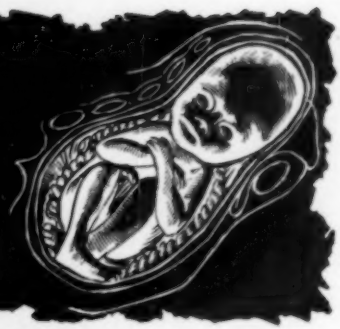
96% BIRTH RATE

with des or desPLEX



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des, the only micronized, triple crystallized (Grant Process) Stilbestrol (U.S.P.) Tablets—used in the treatment of pregnant women, with a history of one, two or more abortions—***averaged 96% normal live babies delivered***[1,2,3].

After extensive clinical experience with des, Karnaky[1], Gitman and Koplowitz[2] and Ross[3] as well as countless other clinicians wholeheartedly endorse the sound therapeutic necessity for the use of des in threatened abortion, habitual abortion and premature labor.

In a most recent publication, Karnaky has demonstrated that des, in massive doses (275 milligrams daily) provides optimum therapeutic results with maximum safety.

des—25 milligram tablets—highly micronized, triple crystallized (Grant Process) Stilbestrol (U.S.P.)—dissolve within a few seconds and are uniformly absorbed into the blood stream. Available in containers of 30 and 100 tablets.

new desPLEX—vitaminized, micronized Stilbestrol (U.S.P.). Border-line deficiency of B complex, especially Folic Acid, may sometimes prevent maximum utilization of estrogens. Histories of such cases indicate that the woman had difficulty in metabolizing endogenous or ingested estrogens. Not unusually, mild to severe nausea and vomiting is symptomatic. For additional support, when indicated, prescribe desPLEX, micronized Stilbestrol (U.S.P.), fortified with vitamin C plus B complex, including Folic Acid and B_{12}.

Karnaky[4] and Javert[5] agree that C and B complex vitamins and Folic Acid are necessary for the normal physiological metabolism of estrogens. Jailer[6] further substantiates that a border-line deficiency of Folic Acid may result in premature separation of the placenta. *That is why desPLEX is the product of choice.*

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Medical Director

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●

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1. Karnaky, K. J., Amer. J. Obst. & Gyn. 53:312, 1947. 2. Gitman, L. and Koplowitz, A., New York State J. Med. 50:2823, 1950. 3. Ross, J. S., N. Nat. M.A. 43:20, 1951. 4. Karnaky, Karl J., Surg., Gyn. & Obst. 91:617, 1950. 5. Javert, C. T., New York State J. Med. 48:2595, 1948. 6. Jailer, J. W., J. Clin. Endrocinol. 9:557, 1949.

Medical TIMES

THE JOURNAL OF GENERAL PRACTICE

Incorporating the Long Island Medical Journal and Western Medical Times

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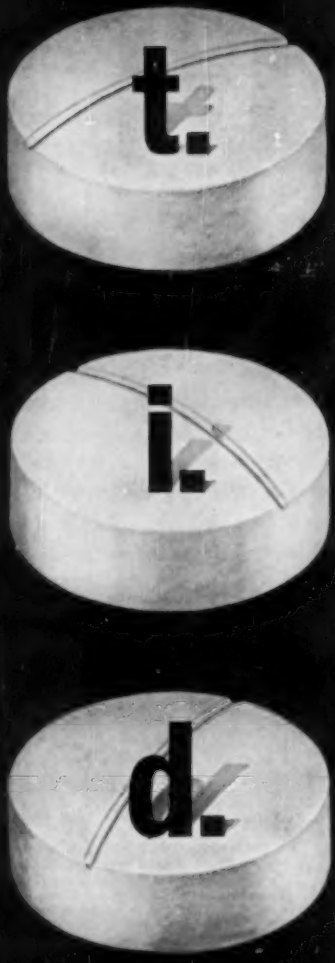

Pentids

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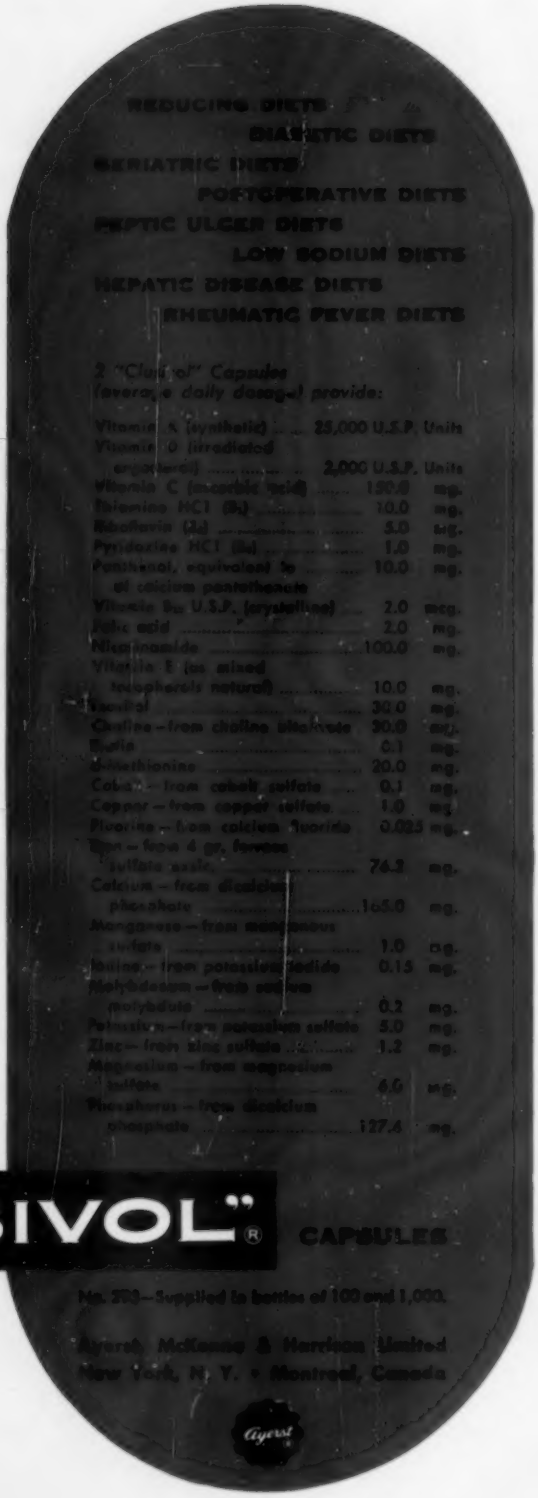

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(1) Burns, J. J., and others: J. Pharmacol. & Exper. Therap. *106*:375, 1952. (2) Byron, C. S., and Orenstein, H. B.: New York State J. Med. *53*:676 (Mar. 15) 1953. (3) Currie, J. P.: Lancet *2*:15 (July 5) 1952. (4) Davies, H. R.; Barter, R. W.; Coe, A., and Hirson, C.: Brit. M. J. *2*:1392 (Dec. 27) 1952. (5) Dollfel, N. E., and Griffin, A. C.: Stanford M. Bull. *2*:65, 1953. (6) Domenjoz, R.: Federation Proc. *11*:339, 1952. (7) Domenjoz, R.: Internat. Rec. Med. *165*:467, 1952. (8) Goldfain, E.: J. Oklahoma M. A. *46*:27, 1953. (9) Gutman, A. B., and Yü, T. F.: Am. J. Med. *13*:744, 1952. (10) Kuzell, W. C.: Annual Review of Medicine, Stanford, Annual Reviews, *2*:367, 1951. (11) Kuzell, W. C., and Schaffarzick, R. W.: Bull. on Rheumatic Diseases *3*:23, 1952. (12) Kuzell, W. C.; Schaffarzick, R. W.; Brown, B., and Mankle, E. A.: J.A.M.A. *149*:729 (June 21) 1952. (13) Kuzell, W. C., and Schaffarzick, R. W.: California Med. *77*:319, 1952. (14) Patterson, R. M.; Benson, J. F., and Schoenberg, P. L.: U. S. Armed Forces M. J. *4*:109, 1953. (15) Rowe, A., Jr.; Tuft, R. W.; Mechanick, P. G., and Rowe, A. H.: Am. Pract. & Digest Treat., in press. (16) Smith, C. H., and Kunz, H. G.: J. M. Soc. New Jersey *49*:306, 1952. (17) Steinbrecker, O., and others: J.A.M.A. *150*:1087 (Nov. 15) 1952. (18) Stephens, C. A. L., Jr., and others: J.A.M.A. *150*:1084 (Nov. 15) 1952. (19) Wilkinson, E. L., and Brown, H.: Am. J. M. Sc. *225*:153, 1953.

Off the Record . . .

True Stories From Our Readers

Each incident described has been contributed by one of our readers. Contributions describing actual and unusual happenings in your practice are welcome. For obvious reasons only your initials will be published. An imported German apothecary jar will be sent in appreciation for each accepted contribution.

Eager Beaver

Several years ago, a couple in their late twenties came to me with the complaint that they had been married for eight years and had failed in their attempts at reproduction.

After complete physical examinations on both the husband and wife, they were placed under treatment with the usual temperature charts and records of times of intercourse. They were most faithful patients, cooperating to the fullest degree, and were seen at monthly intervals.

After some fourteen months, they came into the office, stating that they were sure that conception had taken place, and we all exchanged congratulations.

Due to the length of time and the effort they had expended, I felt that an apology was indicated, so I said, "I am sorry that this has taken such a long time", whereupon the husband broke into a broad grin and replied, "Doctor, I can tell you I have not regretted a moment of it."

M. E. W., M.D.
Berkeley 5, Calif.

He Has a Point

Four year old Herbie was literally "raising the roof" as preparations were made for a necessary shot of penicillin. His mother's pleas, threats, and cajoling only lent impetus to the volume of his objections.

With sudden inspiration, mother said, "Now, Herbie, you know the Lord wouldn't like it for you to yell like this." Herbie's equally inspired reply, between sobs, was "Yeah, but the Doctor's not goin' to stick him with that big needle!"

J. C. M., M.D.
Richmond, Mo.

A Good Fat Fee

Recently a female patient came into my office immediately after a large, obese male left. "I didn't know that Mr. So-and-So was a patient of yours," she declared. "Why are you so interested?" I inquired. "He's my butcher and I hope you charge him by the pound and plenty more for all that fat, like he soaks me!"

S. H. B., M.D.
Hartford, Conn.

Mix Up

I had been home from overseas only a few weeks when I took over a local doctor's practice so that he might take a vacation.

On this particular busy morning, I was seeing one patient after another. The next patient to enter the consultation room was an attractive young lady of about eighteen, accompanied by a young man of like age trailing her by some two paces. As was the custom in this office, the young lady seated herself next to my desk, and the

—Concluded on page 21a

Clinical Evaluation of Pro-Banthīne*

CASE REPORT

"M. D., female, aged 48, had a posterior gastrojejunostomy 14 years ago for duodenal ulcer. The patient was fairly well until nine months ago when severe, intractable pains occurred. She was hospitalized and a subtotal gastrectomy was done.

"She remained well for only a few months and was referred to us because of recurrence of very severe pain and marked

*Trademark of G. D. Searle & Co.

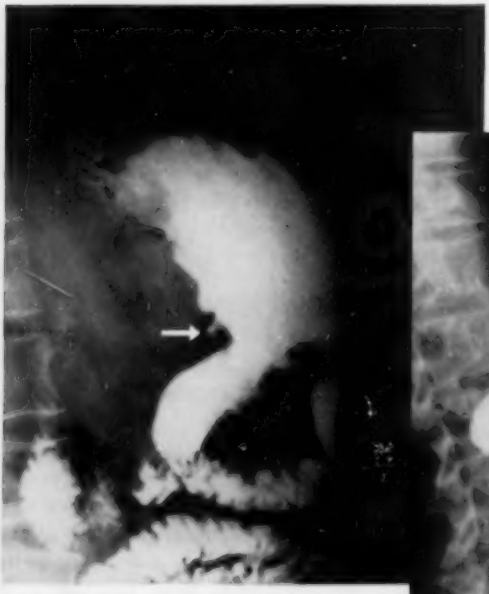
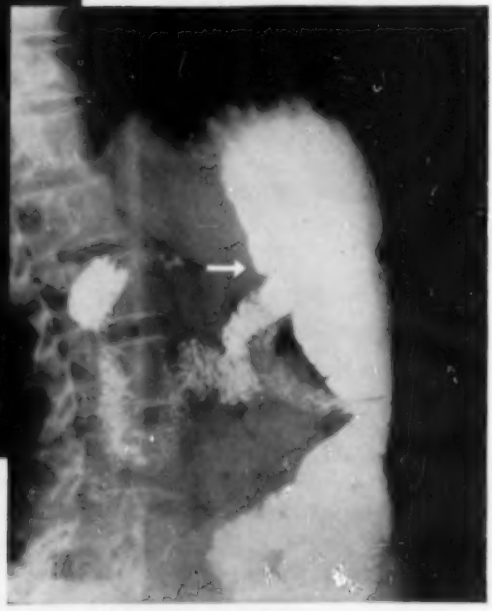


Fig. 1: "Roentgen examination . . . revealed the ulcer to be very much in evidence."

Fig. 2: In ten weeks "the ulcer niche was no longer in evidence roentgenologically or gastroscopically."



weight loss. Roentgen study revealed a fairly large ulcer niche on the gastric side of the anastomosis.

"The patient had been on various types of antacids and sedatives without relief from pain. She was given 60 mg. of Pro-Banthine q.i.d. and within 72 hours was able to sleep through the night for the first time in weeks.

"At the end of two weeks of such treatment the patient had absolutely no pain and felt that she had been 'cured.' Roentgen examination at this time revealed the ulcer to be very much in evidence (Fig. 1). Much persuasion was necessary to make the patient realize the importance of maintaining her diet and therapy.

"Ten weeks of controlled regulation was necessary before we were satisfied that the ulcer niche was no longer in evidence roentgenologically or gastroscopically (Fig. 2).

"She has been maintained on 30 mg. of Pro-Banthine for almost five months with no recurrence of symptoms."

Schwartz, I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: A Clinical Evaluation of a New Anticholinergic Drug, Pro-Banthine, to be published.

Pro-Banthine (*brand of propantheline bromide*), the new, improved anticholinergic agent, is more potent and, consequently, a smaller dosage is required and side effects are greatly reduced or absent.

Peptic ulcer, gastritis, intestinal hypermotility, pancreatitis, genitourinary spasm and hyperhidrosis respond effectively to Pro-Banthine, orally, combined with dietary regulation and mental relaxation.

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Semoxydrine HCl	5 mg.
(Methamphetamine HCl)	
Pentobarbital	20 mg.
Ascorbic Acid	100 mg.
Thiamine HCl	0.5 mg.
Riboflavin	1 mg.
Niacin	5 mg.

massengill

—Concluded from page 17a

young man took the chair over by the window.

I asked of her complaint and was told that she had a pain in her right side. I asked her how long she had been married and she said about two months. I then inquired as to her menstruations, urinations, and cohabitations. She seemed quite shy and a bit embarrassed.

I then had her go into the examination room where the nurse prepared her. After the examination I returned to the consultation room and informed the young man that his wife had appendicitis. "My wife," he exclaimed, "Why I'm not married. I never saw the woman before." Was my face red!

A. J. W., M.D.
Guntersville, Ala.

Demand Feeding

With the pendulum swinging back to demand feedings of infants, reminds me of a favorite expression of our professor in Pediatrics. He did not believe in schedule feedings and would say, "If the baby crys because it is hungry, tell the mother to give it a 'bust in the mouth.'"

W. S., M.D.
Pittsburgh, Penna.

Twin Trouble

Identical twins were delivered by Cesarean section to a patient of Irish extraction, who understandably named them Pat and Mike. On leaving the hospital the mother and babies temporarily made their abode with the maternal grandmother in order that she might be available to lend assistance in the care of the children and facilitate the mother's recovery.

It was the grandmother's practice to awaken them and give the 2 a.m. feeding. On one such occasion having properly changed the babies and administered two bottles of formula she was unable to explain the fact that Mike went promptly to sleep while Pat wailed in spite of repeated efforts to quiet him. As the grandmother reflected on the possible causes for his behavior, she realized that she had given both bottles to Mike and that Pat had not been fed.

A bottle for Pat restored tranquillity and all were able to continue their slumbers.

B. O. J., Jr., M.D.
Roanoke, Va.

Where Else?

A cardiac patient (who also had nasal polyps) was given aminophyllin suppositories and thoroughly instructed as to their use. Two days later the patient called on the phone. "Doctor, that last prescription doesn't help at all. Since I started putting those things in my nose I can't breath at all!"

P.G., M.D.
Wynne, Ark.

Wanted: Non-Skid Mineral Oil

A short time ago I performed a hemorrhoidectomy upon one of my female patients, who is in her early thirties, redhaired, and has an unusual sense of wit. Commonly in my routine care postoperatively of these patients, I have them take an ounce of mineral oil at bedtime until the operative site has healed sufficiently to eliminate anal spasm.

On her second postoperative visit, I asked her how she was feeling. "Oh, I'm feeling simply fine as far as my operation is concerned," she replied, "but I have taken so much darned mineral oil that I can't sit on a chair of any kind without sliding off!"

A. T. J., Jr., M.D.
Meridian, Texas

"...the only preparation known to have this type of action"

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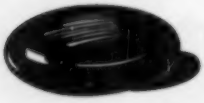

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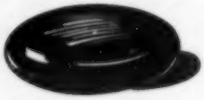

*Shaftel, H. E.: J. Am. Geriatrics Soc. *1*:549 (Aug.) 1953. Caroid, T. M. Reg. U. S. Pat. Off.

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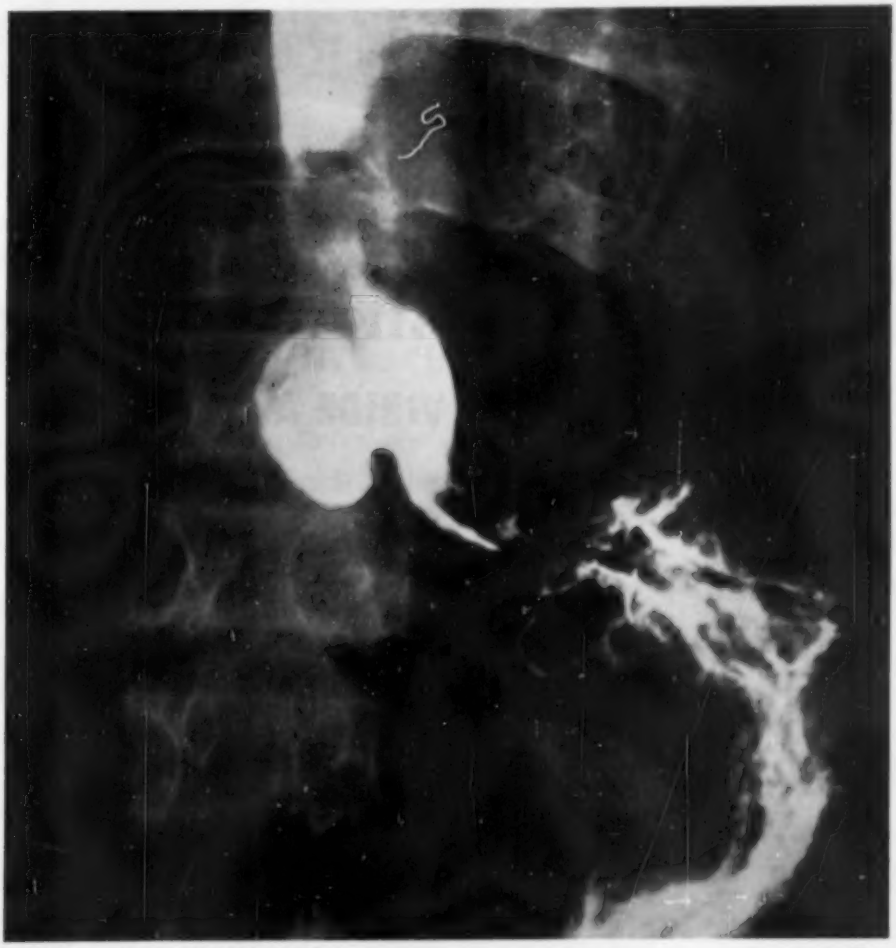
Diagnosis, Please!

WHICH IS *YOUR* DIAGNOSIS?

1. Carcinoma
2. Varices
3. Diverticulum
4. Paraesophageal Hernia
5. Perforation

(ANSWER ON PAGE 82a)



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THE ADVANTAGES OF COMBINING RAUWOLFIA SERPENTINA and VERATRUM VIRIDE

Many cardiologists today assert that in hypertension, combination therapy is more effective than any one drug alone. The combination of Rauwolfia serpentina and Veratrum viride, as provided by Rauvera, is considered one of the more desirable mixtures. Only mildly hypotensive in its action, Rauwolfia serpentina leads to striking subjective improvement, lowers dosage requirements of Veratrum viride, and reduces the incidence of reactions to the latter. The combination exerts a remarkable additive, if not synergistic, influence.

● THE DISTINCTIVE ACTION OF RAUWOLFIA SERPENTINA

Exerting a mild hypotensive influence, Rauwolfia serpentina also produces: relaxing sedation, bradycardia—not tachycardia, and relief of headache and dizziness. By inducing a state of calm tranquility, it creates a sense of well-being and a more favorable outlook. Rauvera contains a highly purified extract of Rauwolfia serpentina alkaloids, the alseroxylon fraction, which is tested in dogs for its hypotensive, sedative, and bradycrotic actions.

● THE POTENT HYPOTENSIVE ACTION OF VERATRUM VIRIDE

Termed one of the safest of the more potent hypotensives, Veratrum viride lowers blood pressure by central action. Like Rauwolfia serpentina, it does not interfere with the postural reflexes, since it is not ganglionic or adrenergic blocking. Its influence is exerted promptly, in contrast to that of Rauwolfia serpentina, which may take weeks to develop to maximum intensity.

IN MODERATE AND SEVERE ESSENTIAL HYPERTENSION

Because of its potent hypotensive activity, Rauvera is indicated in moderate, severe, and resistant essential hypertension. Subjective relief is prompt, the patient is not incapacitated because the postural reflexes remain intact, and the blood pressure is lowered significantly. Each scored Rauvera tablet contains 1 mg. of Rauwolfia serpentina alkaloids and 3 mg. of Veratrum viride alkaloids (alkavervir). Average dose, 1 tablet 3 times daily, at intervals of not less than 4 hours, ideally after meals.

SMITH-DORSEY, LINCOLN, NEBRASKA

A Division of THE WANDER COMPANY

What's Your Verdict?

Edited by Ann Picinich, Member of the Bar of New Jersey

Mr. Jones suffered a compound fracture of the lower leg when he was thrown from his horse. He was taken to a hospital where Dr. X, a specialist in orthopedic and traumatic surgery, was on emergency duty. Leaves and fragments of straw were collected in the open wound, so that Dr. X decided upon an immediate operation, a debridement, to prevent further contamination. Three months later a tetanus infection of the leg developed necessitating another operation. Mr. Jones instituted a malpractice action against Dr. X, alleging that the infection and absence of bone union resulted from a piece of straw being negligently left in the wound. The case was dismissed by the trial court when plaintiff's only medical expert was held not qualified to testify.

On appeal, Mr. Jones maintained that his witness, though retired from practice, was qualified to testify because he nevertheless possessed an extensive medical education and had kept himself abreast of medical and surgical advances by reading and observation.

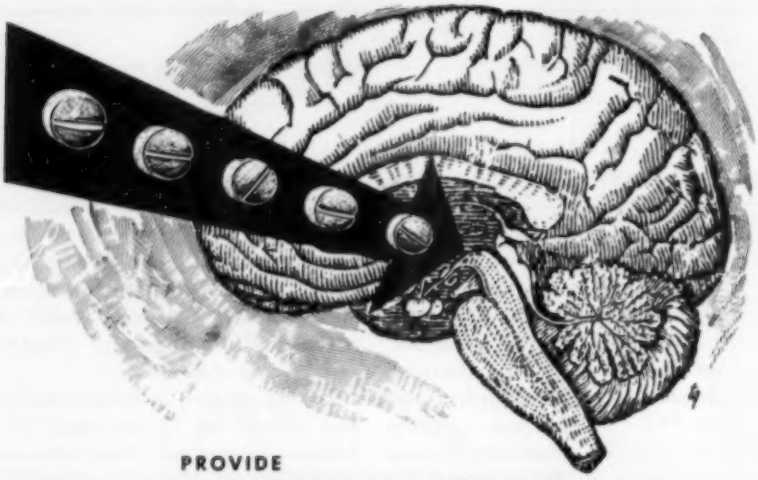
Dr. X's attorney contended that the witness should not be permitted to testify because he was not a specialist in traumatic surgery. Moreover, it was claimed his advanced years, long retirement, infrequent observations of treatments by fellow practitioners in the specialty involved, also disqualified him.

What would your verdict have been as to the competency of this witness?

On appeal, the Supreme Court held that the witness was qualified to testify. A general practitioner is competent to state an opinion concerning the acts or omissions charged to a specialist. It is enough that though a general practitioner he is shown to be versed in the subject from actual experience in his own practice or from observations of treatments by other practitioners or from reading and study. The fact that he is not a specialist may disparage his qualifications and thereby the weight to be given his opinion, but it does not render him incompetent to state an opinion. As to the doctor's long retirement, his advanced years, and infrequent observations in recent years of treatments by practitioners of the type of injury suffered by plaintiff, if these are deficiencies in his qualifications, they go to the weight to be given to his opinion and not to his competency to testify.

Based on a decision of the Supreme Court of New Jersey

SECODRIN TABLETS



PROVIDE
Symptomatic relief from Psychosomatic disturbances

COUNTERACT
Anxiety, abnormal dread or fear, discouragement, gloom, depression, nervousness

ALLAY
Sensation of hunger, thereby lessening tendency to overeating

CREATE
Sense of well-being without untoward after-effects

premo PHARMACEUTICAL LABORATORIES, INC.
SOUTH HACKENSACK, NEW JERSEY

FREE
Physicians' sample of this new PREMO specialty.

Premo Pharmaceutical Laboratories, Inc., South Hackensack, N. J.
Please send me a professional sample of
30 Secodrin tablets.

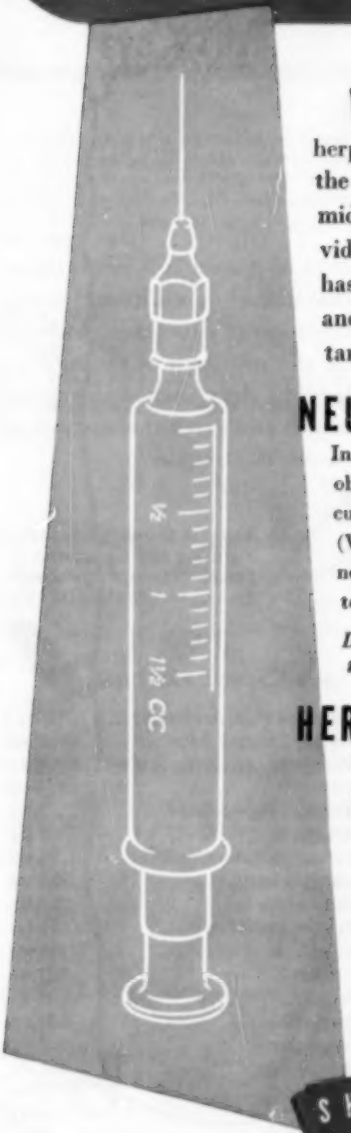
Name_____

3 Address_____

City_____ State_____

PROTAMIDE

FOR THE PATIENT SEEKING RELIEF FROM NERVE ROOT PAIN



WHEN the disturbing and painful symptoms of herpes zoster, or the stinging distress of neuritis brings the patient to you, quick relief is expected. Protamide helps solve this therapeutic problem by providing prompt and lasting relief in most cases. This has been established by published clinical studies, and on the valid test of patient-response to Protamide therapy in daily practice.

NEURITIS (Sciatic—Intercostal—Facial)

In a recent study* of 104 patients, complete relief was obtained in 80.7% with Protamide. 49 were discharged as cured after 5 days of therapy with no subsequent relapse. (Without Protamide, the usual course of the type of neuritis in this series has been found to be three weeks to over two months.)

Dosage: one 1.3 cc. ampul intramuscularly, daily for five to ten days.

HERPES ZOSTER

A study* of fifty patients with Protamide therapy resulted in excellent or satisfactory response in 78%. (No patient who made a satisfactory recovery suffered from postherpetic neuralgia.) Thirty-one cases of herpes zoster were treated with Protamide in another study.* Good to excellent results were obtained in 28.

Dosage: one 1.3 cc. ampul intramuscularly, daily for one to four or more days.

* *A folio of reprints of these studies will be sent on request.*

SHERMAN LABORATORIES
BIOLOGICALS • PHARMACEUTICALS
WINDSOR DETROIT 13, MICH. LOS ANGELES

A Stitch in time

"It is of paramount importance that attention be directed to the nutrition of expectant mothers, for the nutrition of the mother largely determines the good health and general resistance of the child at birth."

Viltner, R. W. and Thompson, C.: Nutrition and the Control of Chronic Disease, Public Health Reports, 66:630, (May 18) 1951

specifically
for the OB patient

OBRON

Each Capsule Contains

Dicalcium Phos. Anhydrous	768 mg.*
Ferrous Sulfate U.S.P.	64.8 mg.
Vitamin A	5,000 U.S.P. Units
Vitamin D	400 U.S.P. Units
Thiamine Hydrochloride	2 mg.
Riboflavin	2 mg.
Pyridoxine Hydrochloride	0.5 mg.
Ascorbic Acid	37.5 mg.
Niacinamide	20.0 mg.
Calcium Pantothenate	3.0 mg.
Cobalt	0.033 mg.
Copper	0.33 mg.
Iodine	0.05 mg.
Manganese	0.33 mg.
Magnesium	1.0 mg.
Molybdenum	0.07 mg.
Potassium	1.7 mg.
Zinc	0.4 mg.

*Equivalent to 15 gr. Dicalcium Phosphate Dihydrate

J. B. ROERIG AND COMPANY · CHICAGO 11, ILLINOIS

LETTERS TO THE EDITOR

This department is offered as an Open Forum for the discussion of topical medical issues. All letters must be signed. However, to protect the identity of writers, who are invited to comment on controversial subjects, names wil be omitted when requested.

Likes MT

Thanks for MEDICAL TIMES. The concise, well-written articles are just what the busy general practitioner needs and appreciates.

William E. Simpson, M.D.
Rock Hill, So. Car.

Refreshers Well Illustrated

Your reprints of MEDICAL TIMES' well-illustrated refresher articles are very welcome. These articles are well written and very worthwhile.

O.S., M.D.
Milwaukee, Wisc.

Good Selection of Articles

Your publication is eagerly awaited each month. Your varied selection of articles and informational refreshers is a boon to the busy general practitioner.

H.M., M.D.
Dallas, Tex.

Excellent Summarizations

Your refresher articles are excellent summarizations of current literature on the subject and save busy GPs a great deal of time by eliminating the necessity of poring through reams of literature.

R.S., M.D.
Seattle, Wash.

the realization of a hope . . .

a new physio-chemical complex that consistently and significantly reduces elevated serum cholesterol levels.

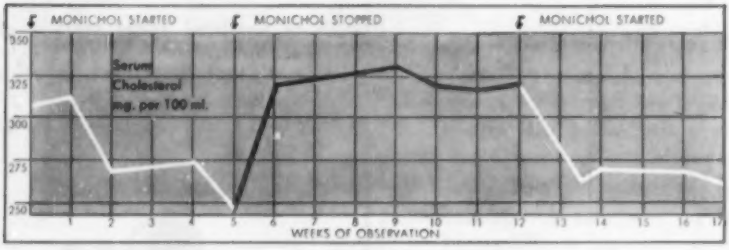
MONICHOL*

I.V.C.®

This typical response of an idiopathic hypercholesteremic patient to an uninterrupted daily intake of Monichol — an entirely non-toxic medication — shows a significant drop from 306 mg. to 240 mg. per 100 ml. of serum cholesterol after five weeks of medication.†

The investigators† stress the need for continued administration of Monichol because idiopathic or familial hypercholesteremia is most probably an *inborn error of metabolism.*

Uninterrupted Daily Intake of Monichol
Essential in the Management of Hypercholesteremia



Please note the *prompt rise of the serum cholesterol to pre-treatment levels* when medication was stopped. We, therefore, urge you to ask your patients to have their prescriptions refilled as soon as their supply is exhausted.

Indications: For the therapeutic and prophylactic management of hypercholesteremia so frequently associated with cardiovascular disease and diabetes.

Dosage: The recommended dosage of 1 teaspoonful four times or two teaspoonfuls twice daily after meals is both the minimum and the optimum dosage.

Formula: Each teaspoonful (5 cc.) contains:

Polysorbate 80	500 mg.
Choline Dihydrogen Citrate	500 mg.
Inositol	250 mg.

Supplied: Bottles of 12 oz.

†Sherber, D. A., and Levites, M. M.: Hypercholesteremia. Effect on Cholesterol Metabolism of a Polysorbate 80-Choline-Inositol Complex (MONICHOL) J.A.M.A. 152:682 (June 20) 1953. *Trademark

Monichol normalizes cholesterol metabolism

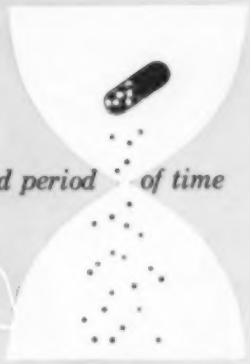
IVES-CAMERON COMPANY, INC., 22 East 40th Street, New York 16, N. Y.

'Spansule' 'Spansule' 'Spansule' 'Spansule' 'Spansule' 'Spansule' 'Spansule'

The revolutionary new oral dosage form

Spansule*

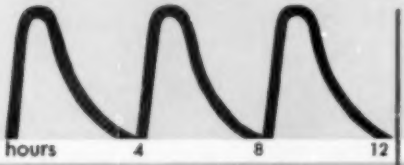
brand of sustained release capsules



uniform release of medication over a prolonged period of time

What 'Spansule' capsules are

Each 'Spansule' sustained release capsule contains scores of tiny medication-bearing coated pellets with varying disintegration times. Upon ingestion, part of the medication is released immediately; the rest is released gradually, yet uniformly, over a period of 8-10 hours, with therapeutic effect lasting approximately 10-12 hours.



This schematic graph illustrates the typical "peak and valley" therapeutic effect with *tablets, t.i.d.*

Note—by contrast—in this graph the sustained therapeutic effect with *one 'Spansule' capsule.*

How 'Spansule' capsules differ from presently available "enteric-coated" and layered "timed-action" tablets

"Enteric-coated" tablets are designed merely to protect the medication from absorption until it reaches the small intestine—to prevent nausea or irritation from certain drugs.

Layered "timed-action" tablets simply release two individual concentrated doses—to provide a full day's medication with just one tablet. However, the therapeutic effect of such preparations is no different from that obtained with ordinary tablets taken b.i.d.

'Spansule' capsules, in marked contrast, provide a means of orally administering a drug so that a *continuous* and *uniform* supply of medication is made available for absorption throughout the day—or night.

Smith, Kline & French Laboratories • Philadelphia

*Trademark for S.K.F.'s brand of sustained release capsules (patent applied for).

(see other side)

'Spansule' 'Spansule' 'Spansule' 'Spansule' 'Spansule' 'Spansule' 'Spansule'

'Spansule' 'Spansule' 'Spansule' 'Spansule' 'Spansule' 'Spansule' 'Spansule'

Because of the advantages inherent in the 'Spansule' capsule dosage form, S.K.F. is working constantly toward the development of new 'Spansule' capsules incorporating adaptable therapeutic agents.

The following Spansule† sustained release capsules are now available:

10 mg.
&
15 mg.

Dexedrine* Spansule capsules

DEXTRO-AMPHETAMINE SULFATE, S.K.F.

for day-long control of appetite in weight reduction

15 mg.

Benzedrine* Sulfate Spansule capsules

AMPHETAMINE SULFATE, S.K.F.

for relief of chronic tiredness

1 gr.
&
1½ gr.

Eskabarb* Spansule capsules

PHENOBARBITAL, S.K.F.

for continuous, even sedation throughout the day—or night

Smith, Kline & French Laboratories • Philadelphia

†Trademark for S.K.F.'s brand of sustained release capsules (patent applied for).

*Trademark.

(see other side)

'Spansule' 'Spansule' 'Spansule' 'Spansule' 'Spansule' 'Spansule' 'Spansule'

11 reasons to consider MANDELAMINE in urinary infections

1 Controls most common urinary infections in 3 to 14 days.[1,2,3]

2 Bacteriostatic and bactericidal action is of approximately the same order as sulfonamides or streptomycin.[4,5,6,7] Effective against gram-positive and gram-negative organisms.

3 Bacteria do not develop resistance.[5,8,9] For this reason, Mandelamine is particularly suitable for chronic conditions in which permanent sterilization cannot usually be expected because of an obstruction, stone, or indwelling catheter. In such cases, Mandelamine usually renders the patient asymptomatic.

4 Although Mandelamine has been widely prescribed for more than ten years, no serious toxic effects, such as blood dyscrasias or crystalluria, have been reported. This lack of toxicity in therapeutic dosage makes Mandelamine especially useful in patients who are not under close supervision. The only contraindication is renal insufficiency.

5 Side effects, such as nausea and vomiting, are rare. Mandelamine does not cause monilial infections responsible for diarrhea, proctitis, vaginitis, and stomatitis.

6 No risk of sensitizing the patient to drugs which may be life-saving in overwhelming infections.

7 Organisms resistant to antibiotics retain their normal susceptibility to Mandelamine.[4,9]

8 In virulent infections accompanied by high fever, antibiotics or sulfonamides may exert a rapid antibacterial effect and reduce the fever. Continued therapy with Mandelamine usually brings the infection under control, while avoiding the expense and possible untoward effects of prolonged use of antibiotics or sulfonamides.

9 No supplementary acidification required (except in presence of urea-splitting organisms which are responsible for only a small percentage of urinary infections).

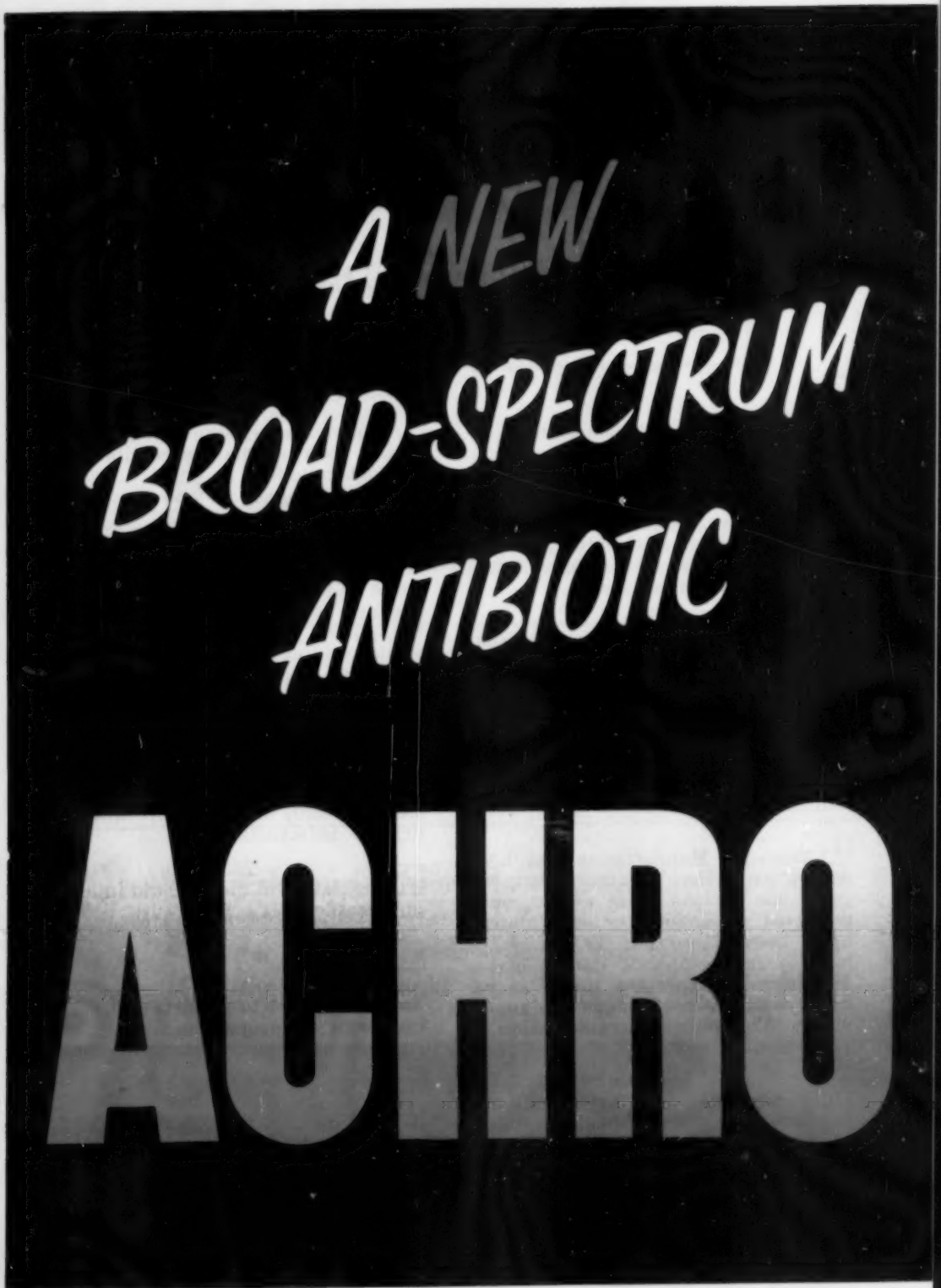
10 Regulation of diet or fluid intake is unnecessary.

11 Inexpensive.

ADULT DOSAGE: 3 to 4 tablets t.i.d.
CHILDREN: in proportion.
0.25 gram enteric coated tablets, bottles of 120.

1. Beckman, H., and Tatum, A. L.: Wisconsin M. J. 51:185, 1952. 2. Carroll, G., and Allen, H. N.: J. Urology 55:674, 1946. 3. Kirwin, T. J., and Bridges, J. P.: Am. J. Surgery 52:477, 1941. 4. New and Nonofficial Remedies, A.M.A., 1953, p. 88. 5. Scudi, J. V., and Duca, C. J.: J. Urology 61:459, 1549. 6. Scudi, J. V., and Reinhard, J. F.: J. Lab. & Clin. Med. 33:1304, 1948. 7. Duca, C. J., and Scudi, J. V.: Proc. Soc. Exper. Biol. & Med. 66:123, 1947. 8. Schloss, W. A.: Connecticut M. J. 14:994, 1950. 9. Knight, V., and others: Antibiotics & Chemotherapy 2:615, 1952.

NEPERA CHEMICAL CO., INC.
Pharmaceutical Manufacturers
Nepera Park, Yonkers 2, N. Y.


A NEW
BROAD-SPECTRUM
ANTIBIOTIC
ACHRO

More Rapid Absorption

Increased Toleration

Greater Stability

ACHROMYCIN, a new broad-spectrum antibiotic developed by the Lederle research team, has demonstrated greater effectiveness in clinical trials with the advantages of more rapid absorption, quicker diffusion in tissue and body fluids, and increased stability resulting in prolonged high blood levels.

ACHROMYCIN exhibits a broad range of activity against beta hemolytic streptococcic infections, *E. coli* infections (including urinary tract infections, peritonitis, abscesses), meningococcic, staphylococcic, pneumococcic and gonococcic infections, otitis media and mastoiditis, acute bronchitis and bronchiolitis, and certain mixed infections.

ACHROMYCIN is now available in 250 mg., 100 mg., and 50 mg. capsules, SPERSOIDS® 50 mg. per teaspoonful (3.0 Gm.), Intravenous 500 mg., 250 mg. and 100 mg. Other dose forms will become available as rapidly as research permits.

Lederle

LEDERLE LABORATORIES DIVISION

AMERICAN Cyanamid COMPANY

30 Rockefeller Plaza, New York 20, N.Y.

MYCIN

TETRACYCLINE CAPSULES LEDERLE

new

relaxant–sedative

Seconesin®

brings pleasant relaxation of mind and body to the tense, anxious, nervous patient.

Seconesin Does More than ordinary sedatives ..... it relaxes both mental and physical tensions to give a more comprehensive calming effect.

Seconesin is Safer—it contains the modern, safe relaxant mephenesin with safe, gentle secobarbital. Both work so well together that only minimal dosage is required for optimum effect—both act promptly and are eliminated promptly. There is no fear of "hangover." Patients do not feel sleepy or "logy" as with usual sedatives. They relax but stay mentally alert, able to pursue normal activities.

Euphoric Effect is Usually Marked – not the stimulated euphoria of amphetamine-like drugs but a relaxed feeling of well-being, of being comfortably and pleasantly at ease!

Seconesin is a handy product to keep in your bag, or in your office. *Why not send for a supply, with additional information, today.*

Composition of **Seconesin**: Lime-green, scored tablets each containing Mephenesin 400 mg. and Secobarbital 30 mg.

Dose: 1 tablet t.i.d., p.c.; 1 or 2 tablets on retiring if needed. Daytime sedation with **Seconesin** is usually so effective that most patients relax into refreshing sleep without nighttime dosage.

CROOKES LABORATORIES, INC. Crookes MINEOLA, NEW YORK

Therapeutic Preparations for the Medical Profession

When the mother asks—

"Which vitamin drops should I use?" --
she looks to you for specific advice.
And when you specify easy-to-take
Vi-Penta® Drops 'Roche,' you know
they are dated to ensure full
potency... they contain synthetic
vitamin A plus five other vitamins...
and they taste good.

Especially

for

"night cough"—

Syrup Sedulon® 'Roche'

although non-narcotic is

so effective that it can

often be used in place of

codeine.

curb inflammation

combat infection

protect the injured eye

CORTOMYD

Ophthalmic Suspension Sterile

***CORTOGEN** (cortisone acetate) and SODIUM SULA**MYD** (sodium sulfacetamide)*

acts rapidly, safe, well tolerated

CORTOMYD® Ophthalmic Suspension *(sterile)*, containing 1.5% (15 mg. per cc.) cortisone acetate (CORTOGEN® Acetate) with 10% (100 mg. per cc.) sodium sulfacetamide (Sodium SULAMYD®), 5 cc. dropper bottle.

*T.M.

Schering

CORTOMYD

SCHERING

They've heard the call for

Vi-Daylin

(Homogenized
Mixture of Vitamins
A, D, B_1, B_2, B_{12}, C and
Nicotinamide, Abbott)

If youngsters freeze up at vitamin time, melt away their resistance with Vi-Daylin.

Every lip-smacking spoonful of Vi-Daylin carries a full day's serving of *seven* important vitamins—including 3 mcg. of body-building B_{12}. And with synthetic vitamin A, there's not a trace of fish oil to dampen its delicious taste.

Vi-Daylin needs no pre-mixing, no droppers, no refrigeration. Mother can pour it as is—serve it with milk, juices or cereal—and store it where she wishes. Won't *you* compare the taste? You'll see why Vi-Daylin lures the little patients (and their Mommas) at one sight of the spoon. In 90-cc., 8-fluidounce and one-pint bottles. Abbott

Each delicious 5-cc. teaspoonful of VI-DAYLIN contains:

Chemically distinct . . .*

Metamine

Leeming brand of Triethanolamine Trinitrate Biphosphate, 2 mg.

Clinically superior . . .

*Unique Nitrogen Linkage:

Metamine is a new, *amino* nitrate, chemically unique, because its nitrate groups are linked through a nitrogen rather than through a carbon atom. The effective dosage (2 mg.) of Metamine is much smaller than those of other long-acting nitrates used to prevent angina pectoris.

METAMINE, newest of the long-acting coronary vasodilators, has the smallest effective dose: 2 mg. Taken routinely, METAMINE prevents attacks of angina pectoris or greatly diminishes their number and severity. Even during prolonged or excessive dosage, side effects are mild and infrequent. Tolerance and methemoglobinemia have not been reported.

The beneficial actions of METAMINE appear to affect the entire circulation, not just the coronary and myocardial vessels, reducing the work load and oxygen requirement of the heart and permitting a life of useful activity for the anginal patient who might otherwise become another cardiac cripple.

for prevention of angina pectoris

Numerous clinical and experimental studies since 1946 indicate that METAMINE is ideally suited for routine prevention of anginal attacks because of low (2 mg.) effective dose, prolonged action, and exceptional freedom from side effects and tolerance. Blood pressure is not altered. Finally, while slower to act than nitroglycerin, METAMINE "exerts a more prolonged and as good, if not slightly better, coronary vasodilator action . . ." (Melville, K.I., and Lu, F.C.: *Canadian M.A.J.*, 65:11, 1951.)

DOSAGE: To prevent angina pectoris, swallow 1 METAMINE tablet after each meal, and 1 or 2 tablets at bedtime. Full preventive effect is usually attained after 3rd day of treatment.

Thos. Leeming & Co. Inc.
155 EAST 44TH STREET, NEW YORK 17, N.Y.

entrée to asthma?

not necessarily . . .

Tedral, taken at the first sign of attack, often forestalls severe symptoms.

relief in minutes . . . Tedral brings symptomatic relief in a matter of minutes. Breathing becomes easier as Tedral relaxes smooth muscle, reduces tissue edema, provides mild sedation.

for 4 full hours . . . Tedral maintains more normal respiration for a sustained period—not just a momentary pause in the attack.

Prompt and prolonged relief with Tedral can be initiated any time, day or night, whenever needed, without fear of incapacitating side effects.

Tedral provides:

theophylline	2 gr.
ephedrine	3/8 gr.
phenobarbital	1/8 gr.

in boxes of 24, 120 and 1000 tablets

Tedral®

WARNER-CHILCOTT
Laboratories NEW YORK

MODERN MEDICINALS

These brief resumes of essential information on the newer medicinals, which are not yet listed in the various reference books, can be pasted on file cards and a record kept. This file can be kept by the physician for ready reference.

Amphedase Kapseals, Parke, Davis & Co., Detroit, Mich. Each Kapseal contains 2.5 mg. d-amphetamine sulfate; 25 mg. nicotinamide; 5 mg. thiamine hydrochloride; 50 mg. ascorbic acid and 300 mg. Take-Diastase. The management of asthenia, convalescence, depression, obesity, faculty nutrition, chronic alcoholism and geriatrics. **Dose:** Recommended is 1 or 2 Kapseals either before or after mealtime. **Sup:** In bottles of 100 and 500 Kapseals.

Anacol Cough Syrup, The Warren-Teed Products Co., Columbus 8, Ohio. Each 30 cc contains: dihydrocodeinone bitartrate, 10 mg.; ammonium chloride, 0.5 Gm. tartar emetic, 8 mg.; sodium citrate, 0.6 Gm.; citric acid, 0.3 Gm.; chloroform, 0.12 Gm. Sedative and anodyne expectorant to stimulate the bronchial, tracheal and pharyngeal secretions in inflammatory conditions of the respiratory mucosa and to hold the frequency and severity of coughing within efficient productive bounds. **Dose:** Adults, 1 teaspoonful every 3 hours; Children, smaller doses according to age. **Sup:** In pint and gallon bottles.

Anodynos-DHC Tablets, George A. Breon & Co., New York 18, N. Y. The compound consists of acetophenetidin, acetylsalicylic acid, caffeine and dihydrocodeinone bitartrate. New size. For the relief of pain, febrile conditions and in treating all types of coughs, including that of tuberculosis. **Dose:** As determined by physician. **Sup:** In bottles of 100 tablets, also in bottles of 500 tablets.

Biosulfa 500 M Tablets, The Upjohn Co., Kalamazoo, Mich. Each tablet contains crystalline penicillin G potassium 500,000 units, sulfadiazine 0.167 Gm., sulfamerazine 0.167 Gm., and sulfamethazine 0.167 Gm. Antibacterial action, new form. **Dose:** As determined by physician. **Sup:** In bottles of 50 tablets.

Coricidin with Penicillin G Procaine Tablets, Schering Corp., Bloomfield, N. J. Each tablet contains Chlor-Trimeton maleate, 2.0 mg.; penicillin G procaine U.S.P., 150,000 units; aspirin, 0.15 Gm.; acetophenetidin, 0.12 Gm. and caffeine, 0.03 Gm. For the treatment of acute upper respiratory infection; the oral penicillin also has been effective prophylactically in studies on the prevention of the recurrence of rheumatic fever. **Dose:** Usual adult is 4 to 6 tablets daily taken 1 hour before or 2 hours after meals. **Sup:** In vials of 24 tablets, and in bottles of 100 tablets.

Diogyn-E Tablets, Chas. Pfizer & Co., Inc., Brooklyn 6, N. Y. Each tablet contains ethinyl estradiol, 0.02 mg., 0.05 mg. or 0.5 mg. As potent estrogen replacement therapy. **Dose:** As determined by physician. **Sup:** 0.02 mg. in bottles of 100 tablets, 0.05 mg. in bottles of 100 tablets and 0.5 mg. strength in bottles of 25 tablets.

Furacin Urethral Suppositories, Eaton Laboratories, Inc., Norwich, N. Y. Contain Furacin, 0.2% and 2% diperodon hydrochloride N.N.R., dissolved in a water-dispersible base composed of glyceryl

—Concluded on page 61a

Today

Cortril

brand of ***hydrocortisone***

CORTRIL ACETATE TOPICAL OINTMENT

CORTRIL ACETATE OPHTHALMIC OINTMENT

CORTRIL ACETATE AQUEOUS SUSPENSION

PFIZER SYNTEX PRODUCTS

With the introduction of CORTRIL Topical Ointment, CORTRIL Ophthalmic Ointment, and CORTRIL Aqueous Suspension for intra-articular injection, significant and definite *anti-inflammatory* action is now possible at the local level *without systemic effect.*

in a wide variety of dermatoses

CORTRIL Topical Ointment, applied locally, is effective in allergic skin disorders. The unique topical action of this corticoid agent safely controls local edema, erythema, and inflammatory infiltration, and markedly relieves the distressing pruritic manifestations of atopic and contact dermatoses.

the anti-inflammatory hormone

in ocular disorders

With CORTRIL Ophthalmic Ointment, local inflammatory edema is safely controlled and fibrous tissue proliferation and corneal vascularization which can result in scarring are significantly inhibited in conditions of the anterior chamber of the eye.

inflamed joints, sprains, and bursitis

Injected directly into arthritic joints and bursae, CORTRIL Aqueous Suspension provides a prompt and striking decrease in pain, stiffness, and swelling, entirely through local action.

CORTRIL and TERRAMYCIN when used concurrently provide combined anti-inflammatory and anti-infectious therapy— a desirable as well as a useful precaution in many indications.

PFIZER LABORATORIES. *Brooklyn 6, New York*
Division, Chas. Pfizer & Co., Inc.

Pfizer

They all like

pediatric

ERYTHROCIN

TRADE MARK

STEARATE

(Erythromycin Stearate, Abbott)

oral suspension

. . . the cocci-killing antibiotic for children of all ages. Tasty, stable, ready for instant use. *No mixing required*—drug retains potency for at least 18 months.

Winter infections—otitis media, bronchitis, sinusitis, pharyngitis and pneumonia—are especially sensitive to *Pediatric* ERYTHROCIN. Also, pyoderma, erysipelas, certain cases of osteomyelitis, and other infectious conditions.

Many physicians make it a practice to always prescribe *Pediatric* ERYTHROCIN when the organism is staphylococcus, because of the high incidence of staphylococcic resistance to many other antibiotics. And when the organism is resistant or when the patient is sensitive to penicillin and other antibiotics.

Pediatric ERYTHROCIN is specific in action—*less likely to alter normal intestinal flora than most other antibiotics.* Gastrointestinal disturbances are rare. No serious side effects reported.

Pediatric ERYTHROCIN can be administered before, after or with meals. Available in 2-fluidounce, pour-lip bottles. Abbott

DOSAGE

One 5-cc. teaspoonful
represents
100 mg. of ERYTHROCIN

25-lb. child • ½ teaspoonful
50-lb. child • 1 teaspoonful
100-lb. child • 2 teaspoonfuls
Every 4 to 6 hours

1-52-54

✓	**CHECK** *pain, fever and discomfort of* COLDS, GRIPPE, FLU
✓	**CHECK** *the advantages of*

APAMIDE-VES

(buffered N-acetyl-p-aminophenol, Ames, 0.3 Gm.)

effervescing analgesic-antipyretic

✓	*more rapid, refreshing relief*
✓	*assured fluid intake*
✓	*protective alkaline factor*
✓	*notably well-tolerated*
✓	*safer control—R_x only*

Availability: Box of 50, individually foil-wrapped tablets.

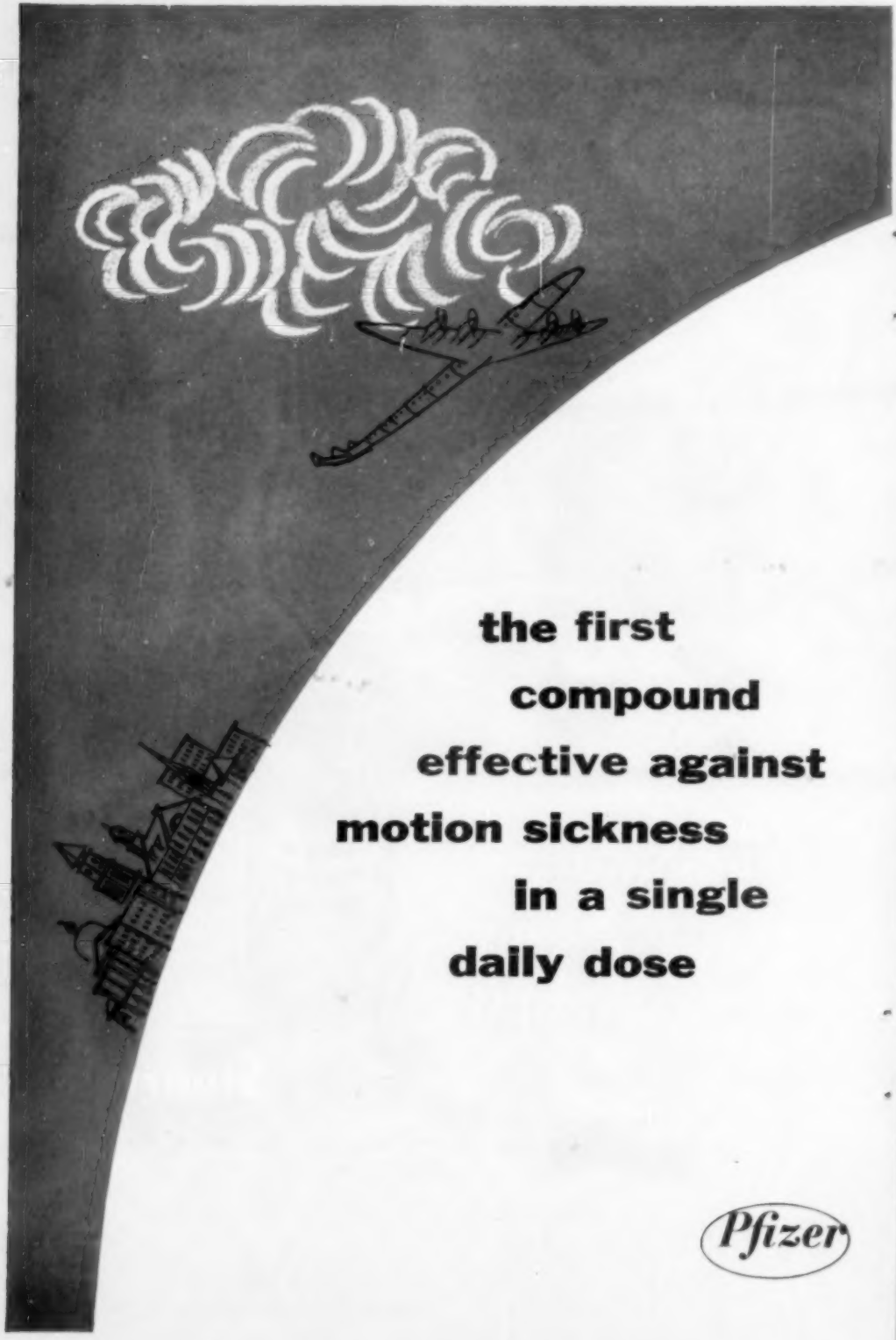
NOTE: *Apamide-Ves* offers your arthritic patients a pleasant change. It is especially valuable for those who cannot take salicylates.

Samples and literature upon request.

AMES
COMPANY, INC. • ELKHART, INDIANA
Ames Company of Canada, Ltd., Toronto

84884


For greater
success in
appetite control
Stuart
Amvicel
Stuart


the first
compound
effective against
motion sickness
in a single
daily dose
Pfizer

with just **4** *tablets*
of new **BONAMINE**
you can travel from . . .

Boston to Bangkok—*a 2 day trip*
. . . with new freedom from airsickness

MOST PROLONGED ACTION

Bonamine is the only motion-sickness preventive which is effective in a *single daily dose.* Just two 25 mg. tablets (50 mg.) will provide adequate protection against all types of motion sickness — car or boat, train or plane — for a *full 24 hours in most persons.*

new Bonamine*

BRAND OF MECLIZINE HYDROCHLORIDE

FEW SIDE EFFECTS

Clinical studies have shown, in case after case, that relatively few of the patients experienced the usual side effects observed with other motion-sickness remedies: less drowsiness, dullness, headache, dryness of the mouth, etc. In addition, Bonamine is tasteless and acceptable to patients of all ages.

Supplied: 25 mg. tablets, bottles of 100.

PFIZER LABORATORIES *Division, Chas. Pfizer & Co., Inc., Brooklyn 6, N. Y.*

*TRADEMARK

"Have I been prescribing a calcium deficiency?"

MANY PHYSICIANS have asked themselves this question after reading recent reports which challenge the use of dicalcium phosphate as a source of calcium in the diet of pregnancy.

Page and Page (1) demonstrated that low-calcium tetany *can actually be induced* by dicalcium phosphate, and that these symptoms are eliminated by use of calcium lactate, which is phosphorus-free, plus aluminum hydroxide to remove dietary phosphorus. Serological studies by Newman (2) confirmed the fact that calcium levels are *not* elevated, even by large doses of dicalcium phosphate and vitamin D.

THESE FINDINGS justify two clear-cut conclusions:

1. The mere listing on a label of a calcium salt carries no assurance against calcium deficiency if phosphorus is also present.

2. There is a serious need for a complete prenatal supplement which provides *assimilable* calcium, plus vitamins and iron, and avoids the negative action of phosphorus.

Calcisalin® (Harrower) has been formulated in accordance with these conclusions. Physicians who have questioned past procedures are already prescribing it. Samples are available.

(1) Page, E. W. and Page, E. P., Obs. and Gyn. 1:94-100, Jan. 1953.
(2) Newman, R. L., Am. Jl. Obs. and Gyn. 65:796, Apr. 1953.

two outstanding reasons why

pyraldine®

is so highly effective for the persistent, dry and unproductive cough

1 **Dihydrocodeinone** is used (in equivalent dosage) instead of codeine, for its exceptional freedom from such side effects as nausea, vomiting, constipation and retention of sputum.

2 **Pyra-Maleate,®** the highly effective antihistaminic, is included in the formula, for suppression of the allergic manifestations which frequently complicate the common cold.

Pyraldine also helps liquefy mucus and has a local soothing effect on irritated mucosa.

Each fluidounce of PYRALDINE contains:

Dihydrocodeinone bitartrate (*Warning: May be habit forming*)	1/8 gr.
Pyra-Maleate® (*Brand of Pyrilamine Maleate*)	75 mg.
Ammonium chloride	6 gr.
Citric acid	5 gr.

In a mentholated, fruit-flavored, syrup vehicle.

PYRALDINE Expectorant is supplied in one pint and gallon bottles. Narcotic registry number required.

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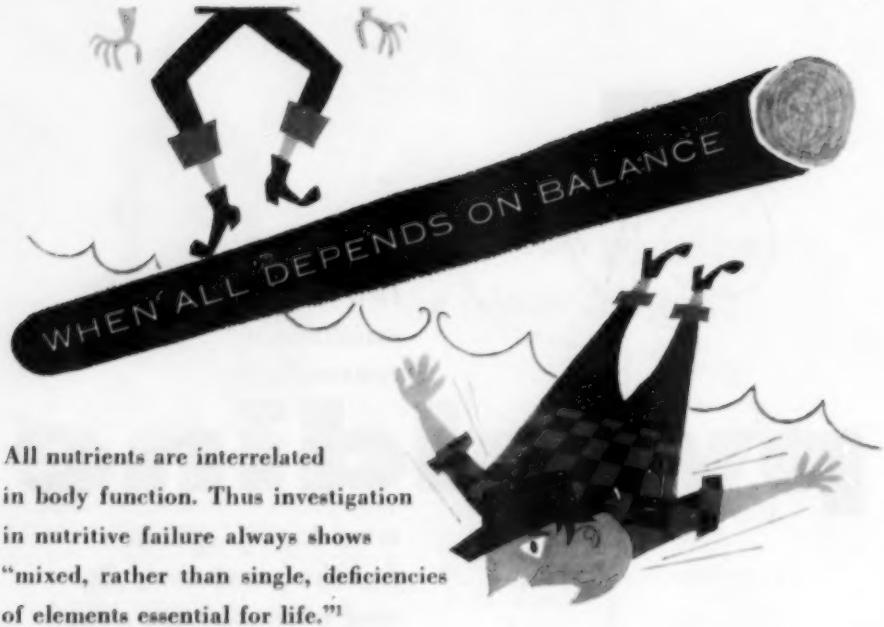

All nutrients are interrelated in body function. Thus investigation in nutritive failure always shows "mixed, rather than single, deficiencies of elements essential for life."[1]

To assure an adequate daily supply of essential Vitamins as well as Minerals and Trace Elements needed for balanced nutrition

1. Spies, T. D.: *Influence of Pregnancy, Lactation, Growth and Aging on Nutritional Processes, J.A.M.A., 153:185 (Sept. 19) 1953, p. 189*

Specify Vi terra whenever balanced supplementation is required

Each capsule contains

Vitamin A	5,000 U.S.P. Units	**Calcium**	213 mg.
Vitamin D	500 U.S.P. Units	**Cobalt**	0.1 mg.
Vitamin B 12	1 mcg.	**Copper**	1 mg.
Thiamine Hydrochloride	3 mg.	**Iodine**	0.15 mg.
Riboflavin	3 mg.	**Iron**	10 mg.
Pyridoxine Hydrochloride	0.5 mg.	**Manganese**	1 mg.
Niacinamide	25 mg.	**Magnesium**	6 mg.
Ascorbic Acid	50 mg.	**Molybdenum**	0.2 mg.
Calcium Pantothenate	5 mg.	**Phosphorus**	165 mg.
Mixed Tocopherols (Type IV)	5 mg.	**Potassium**	5 mg.
		Zinc	1.2 mg.

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calms the restless...rests the sleepless

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Available in Kapseals,® or as an Elixir for easily individualized dosage, CARBRITAL is valuable in a wide range of indications including insomnia, nervous tension, and preoperative or obstetrical preparation.

Each CARBRITAL KAPSEAL (Full-strength) contains:	
Pentobarbital sodium	1½ grains
Carbromal	4 grains
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Each fluidounce of CARBRITAL ELIXIR contains:	
Pentobarbital sodium	2 grains
Carbromal	6 grains

CARBRITAL KAPSEALS, full- or half-strength, may be taken by adults in doses of one or more, on schedules determined by the physician. Children may be given ½ to 1 teaspoonful of CARBRITAL ELIXIR; adults 1 to 2 teaspoonfuls or more as required.

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Parke, Davis & Company

DETROIT, MICHIGAN

"...a marked advance in wet dressing therapy..."[1]

1. Peck, S. M.; Traub, E. F., and Spoor, H. J.: Aqueous Solutions of Sodium Propionate with Chlorophyll as a Therapeutic Agent: A.M.A. Arch. Dermat. & Syph. *67*:263, 1953.

Prophyllin®

avoids treatment dermatitis

Clinical investigators[1] welcome the superior advantages of wet dressings made with PROPHYLLIN, the new sodium propionate-chlorophyll preparation. Incorporating a constituent of the protective coating of normal skin, PROPHYLLIN makes a soothing dressing for even the most acutely inflamed skin disorders.

more physiologic: contains no chemical irritants or sensitizing agents.

nonastringent: will not block sweat ducts.

markedly antipruritic

mildly bacteriostatic and fungistatic

cosmetically acceptable: no objectionable propionate odor after powder is dissolved...does not stain.

and as healing progresses... **Prophyllin** ointment

to continue the benefits of PROPHYLLIN in ambulatory patients, or when wet dressings are contraindicated or impracticable.

PROPHYLLIN POWDER, for preparation of wet dressings, in cartons of 12 packets. (Each packet contains 2.3 gm. of powder, sufficient to prepare 8 ounces of solution containing 1 per cent sodium propionate and 0.0025 per cent water-soluble chlorophyll.) Also in 4-ounce and 16-ounce jars.

PROPHYLLIN OINTMENT, in 1½-ounce and 4-ounce tubes. (PROPHYLLIN OINTMENT contains 5 per cent sodium propionate and 0.0125 per cent water-soluble chlorophyll.)

Rystan company inc.

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"To Your Patient's Health!"

Good nutrition and good health go hand in hand! Knox Concentrated Gelatine Drink is a worthy protein dietary adjuvant where high protein diet is indicated.

First used by the profession in this form about fifteen years ago, increasing clinical usage demonstrates its professional acceptance. Up to 60 grams of Knox Gelatine in the concentrated drink have been administered daily with no allergic reactions.[1] It contains 25 per cent glycine and 7 out of 8 essential amino acids, as well as 9 other accepted aminos. Knox Gelatine is low in sodium, has a pH of 6.2-6.4, is pure protein with no sugar and no flavoring.

1. Reich, C., and Mullinos, M. G., Treatment of Refractory Nutritional Anemia with Gelatine. Bull. N. Y. Med. Coll. March 1953.

How to Administer Knox Gelatine Concentrate Drink!

Each envelope of Knox Gelatine contains 7 grams which the patient is directed to pour into a ¾ glass of orange juice, other fruit juices, or water, not iced. Let the liquid absorb the gelatine, stir briskly, and drink at once. If it thickens, add more liquid and stir again. Two envelopes or more a day are average minimal doses. Each envelope contains but 28 calories.

For Your Patient's Protection!

Be sure you specify KNOX so that your patient does not mistakenly get factory-flavored gelatine dessert powders which are 85% sugar.

You are invited to send for brochures on diets of Diabetes, Colitis, Peptic Ulcer . . . Low Salt, Reducing, Liquid, and Soft Diets. KNOX GELATINE, JOHNSTOWN, N. Y. Dept. MT-1

Available at grocery stores in 4-envelope family size and 32-envelope economy size packages.

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ALL PROTEIN • NO SUGAR

—Concluded from page 45a

monolaurate and sorethytan monostearate. Non-gonorrheal, bacterial (granular) urethritis in women. **Dose:** After voiding, the patient inserts 1 suppository completely into the urethra and lies supine for 10 minutes. **Sup:** In bottles of 12 (1.3 Gm. ea.) suppositories.

Marezine Hydrochloride, Burroughs Wellcome & Co., Inc., Tuckahoe 7, N. Y. Each product contains 50 mg. of the drug, N-benzhydryl-N'-methyl piperazine monohydrochloride, and is scored. Anti-emetic: non-sedative for motion sickness and preventing motion sickness, in vertigo, for symptomatic relief. **Dose:** As determined by physician. **Sup:** In bottles of 100 and 1,000.

Pagitane Hydrochloride, Eli Lilly & Co., Indianapolis 6, Ind. A derivative of aminopropanol, chemical formula: 1-phenyl-1-cyclopentyl-3-piperidino-1-propanol hydrochloride. In the symptomatic treatment of all forms of Parkinson's disease. **Dose:** As determined by physician. **Sup:** In bottles of 100 and 1,000 tablets (1.25 mg., 2.5 mg.).

Panalins-T Capsules
Panalins Capsules, Mead Johnson & Co., Evansville, Ind. Vitamin therapy. Panalins will provide the recommended standard maintenance dosage for patients with inadequate or irregular diets, or those under mild physiologic or pathologic stresses, and for growing children and adolescents, or for use in the later stages of convalescence. Panalins-T will contain approximately 5 times the usual daily allowance of B complex vitamins and vitamin C for administration to patients in periods of extreme stress, during acute illnesses or following severe injuries or burns. **Dose:** As determined by physician. **Sup:** Panalins in bottles of 100 and 500 capsules; Panalins-T in bottles of 30 and 100 capsules.

Pen-G-Cap, 200,000 Units, The Upjohn Co., Kalamazoo, Mich. Capsules containing 200,000 units of procaine penicillin G suspended in oil, with 2% w/v aluminum monostearate as the dispersing agent. In the treatment of infections caused by penicillin-susceptible organisms, including streptococcic, staphylococcic and pneumococcic infections, Vincent's stomatitis and gonorrhea. **Dose:** One or 2 capsules orally every 8 hours depending upon the severity of the infections. **Sup:** In bottles of 12, 100 and 500 capsules.

Rauvera Tablets, Smith-Dorsey, Lincoln, Nebr. Each tablet contains 1 mg. of Rauwolfia serpentina alkaloids (alsercxylon fraction) and 3 mg. of alkavervir (purified Veratrum viride alkaloids). Hypotensize agent. **Dose:** Average is 1 tablet 3 times daily. **Sup:** In bottles of 100 tablets.

Rezipas, E. R. Squibb & Sons, New York 22, N. Y. An anionic exchange resin complex containing approximately 50% by weight of para-aminosalicylic acid. For the treatment of tuberculosis, in conjunction with one of the Streptomycin drugs or Nydrazid. **Dose:** Recommended is 24 to 30 Gms. per day divided into at least 2 parts. **Sup:** In 1 lb. bottle.

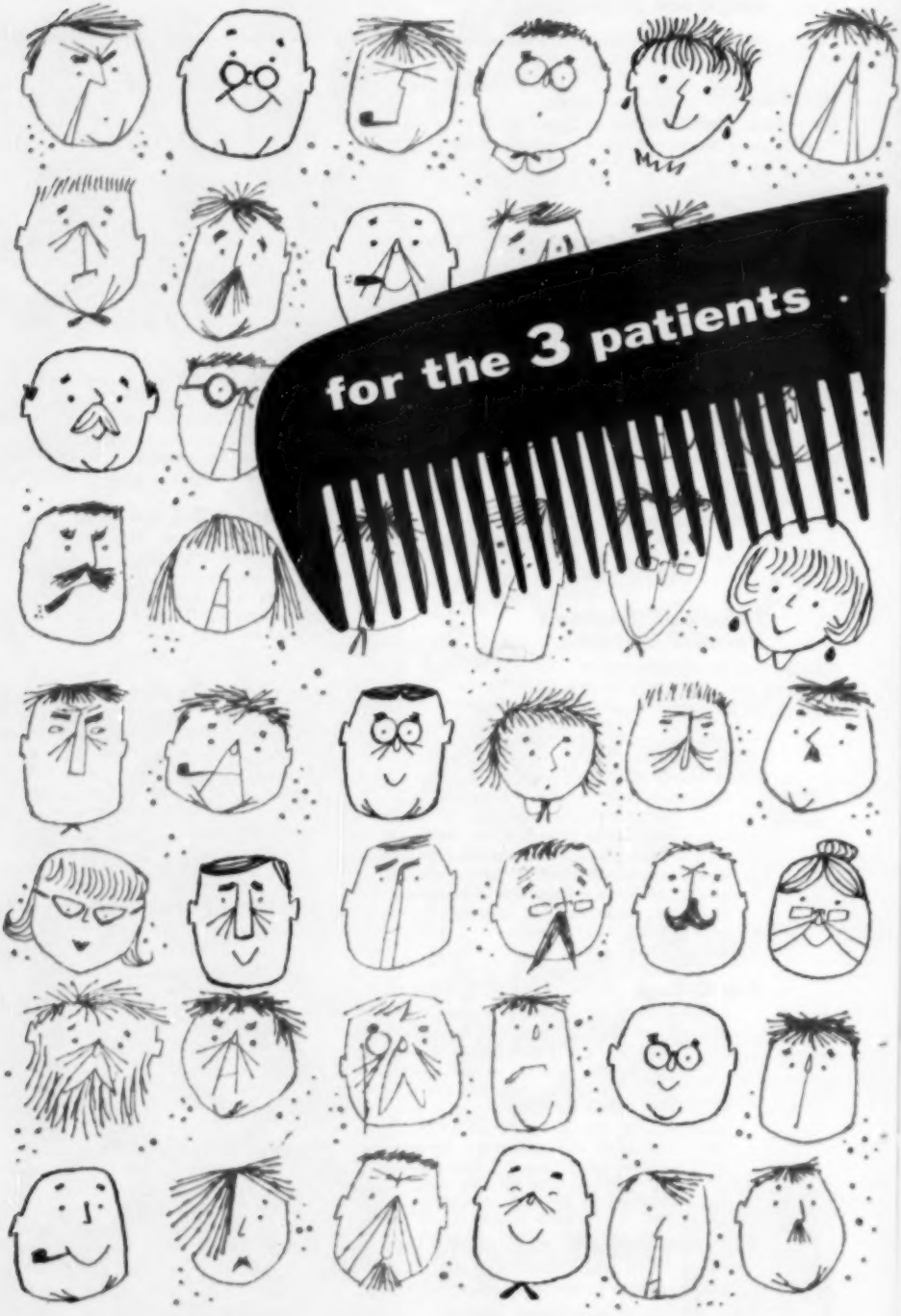
Serpasil Tablets, Ciba Pharmaceutical Products, Inc., Summit, N. J. A pure crystalline alkaloid of Rauwolfia serpentina. A tranquilizer-antihypertensive. **Dose:** As determined by physician. **Sup:** In bottles of 100 tablets (0.1 mg. and 0.25 mg. sizes).

Solanital B-C Capsules, Smith-Dorsey, Lincoln, Nebraska. Mixture of natural anticholinergic alkaloids plus B complex vitamins and vitamin C, with extracts of belladonna and hyoscyamus. Spasmolysis-sedative action. **Dose:** Four capsules daily is recommended. **Sup:** In bottles of 100, 500 and 1,000 capsules.

Synandrets Tablets, Chas. Pfizer & Co., Inc., Brooklyn 6, N. Y. Each tablet contains testosterone, 10 mg. or 25 mg. Maintenance therapy in male hormone deficiencies; metorrhagia, dysmenorrhea and premenstrual tension, menopause, postpartum inhibition of lactation and breast engorgement in the female. **Dose:** As determined by physician. **Sup:** 10 mg. tablets in bottles of 25 and 100, 25 mg. tablets in bottles of 25.

Synandrol Parenteral, Chas. Pfizer & Co., Inc., Brooklyn 6, N. Y. Each cc. contains testosterone propionate, 25 mg., 50 mg. or 100 mg., in sterile sesame oil. In certain hormone deficiencies in the male and where male hormone is indicated in the female. **Dose:** As determined by physician. **Sup:** Steraject with needle, 1 cc. disposable cartridge, 25 mg./cc. 50 mg./cc. and 100 mg./cc. in 10 cc. vials, 25 mg./cc. 50 mg./cc and 100 mg./cc.

Wychol-B Syrup, Wyeth Laboratories, Inc., Philadelphia 2, Pa. Each tablespoonful contains choline base 3 Gms., inositol, 0.45 Gm., vitamin B_1, 2.5 mg., vitamin B_2, 0.5 mg., vitamin B_6, 2.5 mg. and niacinamide, 10 mg. **Dose:** One teaspoonful to 1 tablespoonful 3 times daily. **Sup:** In pint bottles.


for the 3 patients

who have

seborrheic dermatitis

of the scalp

For the scalp-scratchers, shoulder-brushers and comb-clutterers, there's welcome relief with SELSUN Sulfide Suspension.

Published reports on more than 400 cases[1-3] show that SELSUN completely controls seborrheic dermatitis in 81 to 87 per cent of all cases, and in 92 to 95 per cent of common dandruff cases. It keeps the scalp free of scales for *one to four weeks*—relieves itching and burning after only two or three applications.

SELSUN is remarkably simple to use. Your patients apply it and rinse it out while washing the hair. It takes little time. No complicated procedures or messy ointments. Ethically advertised and dispensed only on prescription. In 4-fluidounce bottles with directions on label. Abbott

prescribe... **SELSUN**®

SULFIDE *Suspension*

(SELENIUM SULFIDE, ABBOTT)

1. Siepyan, A. H. (1952), Arch. Dermat. & Syph., 65:228, February.
2. Slinger, W. N., and Hubbard, D. M. (1951), *ibid.*, 64:41, July.
3. Sauer, G. C. (1952), J. Missouri M. A., 49:911, November.

I-SAA-54

A packaged "TIME and LABOR SAVER"
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the New Method of Packing

B-P RIB-BACK SURGICAL BLADES

This "eye-view" tells you the story . . . "from RACK-PACK to jar *in a matter of seconds.*"

Its real Time and Labor saving features are there to be seen.

REMOVE COVER

Contains one gross of one size blades, on 4 RACKS.

NO unwrapping of individual blades.

NO removing of individual blades.

NO handling or racking of individual blades.

. . . already on RACK—ready for sterilization by *any* established method.

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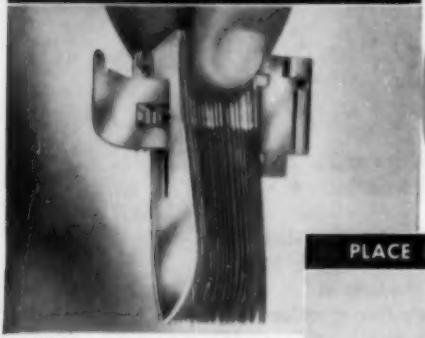
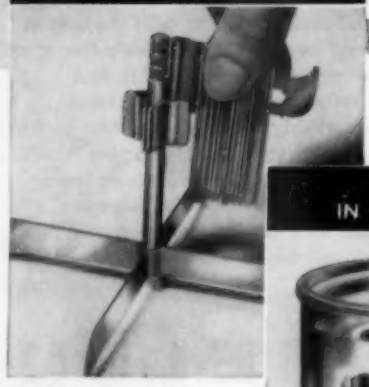


RACK with 36 blades ready to be placed on RACK-PACK STAND.

All RACKS fit the RACK-PACK STAND. *Note* – Notch at end makes removing of one or more blades a simple and easy matter.

PLACE RACKS ON STAND



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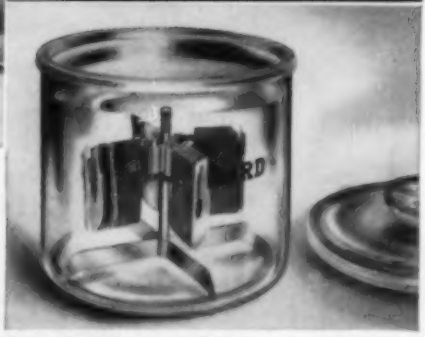

B-P Blade Jar with loaded RACK-PACK STAND immersed in germicidal solution ready for use in O.R.

Need we say more? The RACK-PACK—lined with *rust inhibiting paper,* prevents corrosion, and fully protects the perfect, sharp edges from damage in shipping, storing and pre-operating handling.

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Melmac® Orthopedic Composition

for lighter, thinner, stronger casts

Davis & Geck's Melmac Orthopedic Composition is a melamine resin,† a new powder with catalyst which *doctors* add to the water in which they wet plaster bandages. With Melmac Orthopedic Composition, *doctors* need only *half the usual number of plaster of Paris bandages.* Melmac has been proven by extensive clinical trials.[1,2]

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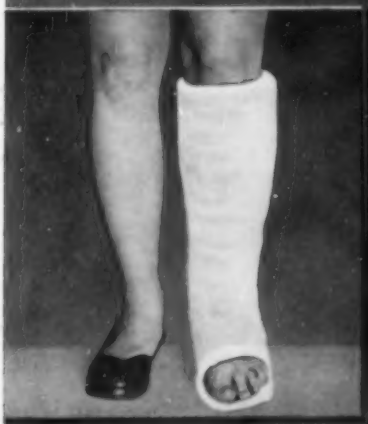
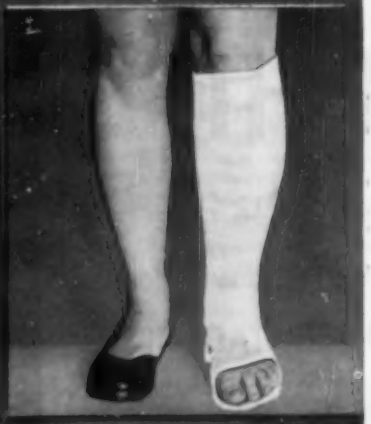


Cast A—ordinary plaster of Paris



Cast B, *plaster fortified with Melmac,* ½ thickness of cast A and weighs less

6 great advantages of casts made with Melmac

1. *Four times the early strength* and over twice the dry strength of ordinary plaster of Paris casts.
2. *Lighter, thinner and stronger casts* provide added comfort and support.
3. *Water and urine resistant.* Does not disintegrate even after several days soaking.
4. *Permits better x-ray penetration* due to thinness of cast.
5. Economical—*50% fewer bandages or less needed,* saves the doctor time.
6. *Conveniently packaged* to permit using as much or as little as is needed for a given case, avoiding waste.

Supplied: In cartons of 3.65 lb. containing six cans of 9.74 oz. (276 Gm.) each, available through surgical supply dealers handling D & G products.

Davis & Geck, Inc. 57 Willoughby Street, Brooklyn 1, N. Y.

Sutures and other surgical specialties

Use of Melmac requires no new technique

To use bandages and splints wetted with Melmac solution, no new technique for applying casts need be learned. Plaster rolls or splints are soaked in the Melmac solution in the usual manner, the excess solution is pressed out, and the cast applied with the same technique as with ordinary plaster bandages and splints.

Note:

Cobey,[3] reports not one person allergic to Melmac in applying 1000 casts.

references:

1. A. W. Spittler, Col., (M.C.), U.S.A., J. J. Brennan, Lt. Col., (M.C.), U.S.A., J. W. Payne, Capt., U.S.A.F. (M.C.), American Academy of Orthopedic Surgeons, Jan. 26-31, 1952, Chicago, Illinois.
2. M. C. Cobey, M.D., F.A.C.S., Professor of Orthopedic Surgery, Georgetown University and Senior Attending Orthopedic Surgeon, Children's Hospital, Washington, D.C., The American Surgeon, Vol. XVIII, No. 4, April, 1952, pp. 413, 415.
3. M. C. Cobey, M.D., F.A.C.S., Washington, D.C., private communication.

Davis & Geck manufactures a complete line of surgical sutures. Diameter for diameter, the tensile strength of D&G Surgical Gut is unexcelled by any other brand.

For a good appetite... to speed recovery

Only one teaspoonful or one tablet daily of 'Trophite'—a high-potency combination of B_{12} and B_1—is recommended to accelerate recovery through an increased appetite.

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Now available in 2 dosage forms:

'TROPHITE' TABLETS
for older children and adults. Supplied in bottles of 50 tablets.

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Vitamin B_{12}—25 mcg.
Vitamin B_1—10 mg.

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NON-BARBITURATE
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TASTELESS
ODORLESS

3¾ gr.
Daytime sedation—
without hangover

7½ gr.
Restful sleep—*without hangover*

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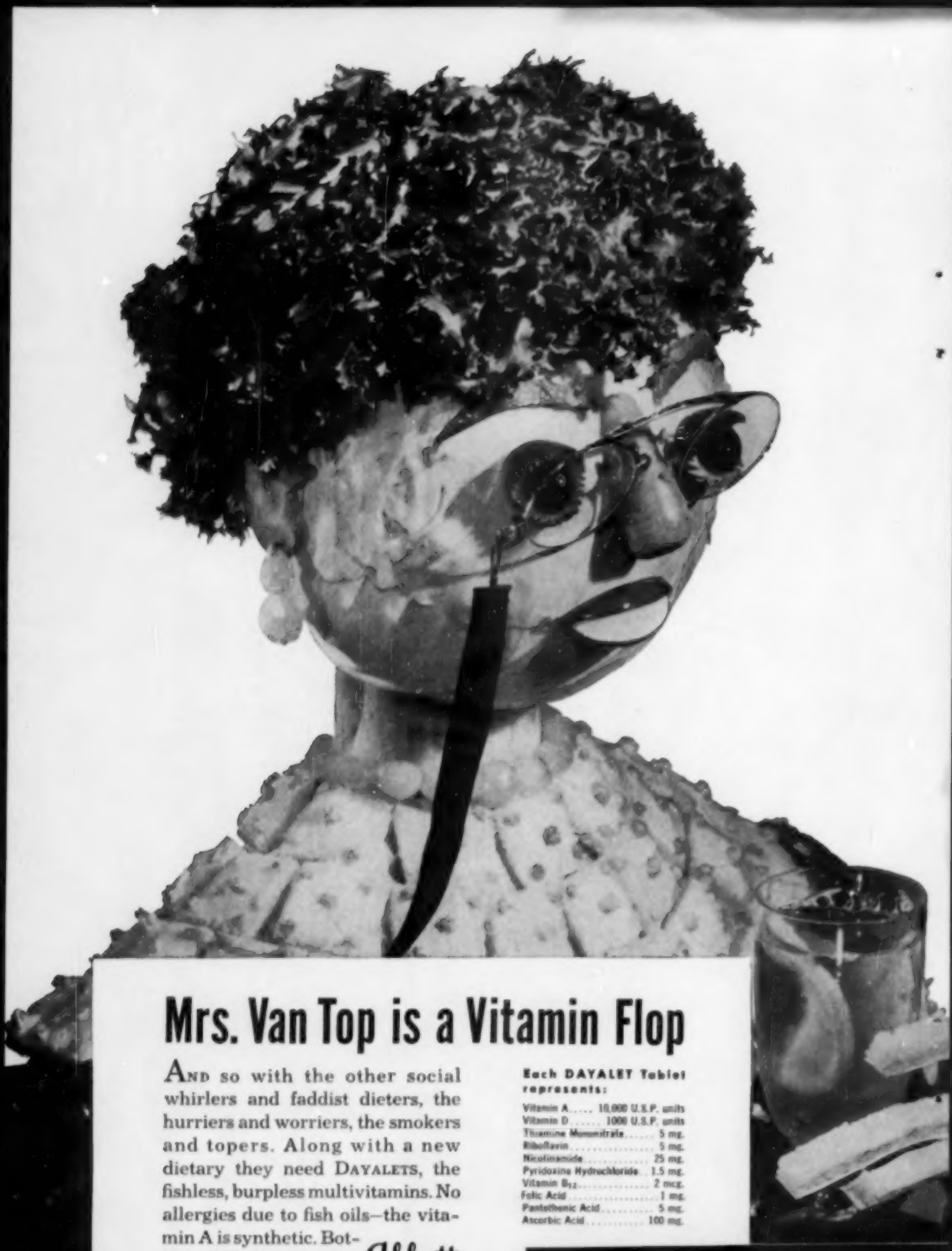

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Thiamine Mononitrate	5 mg.
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Vitamin B_{12}	2 mcg.
Folic Acid	1 mg.
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DAYALETS®
(Abbott's Multiple Vitamins)

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Preclinical Cancer of Cervix

A Method of Selecting Biopsy Site by Segmental Surface Cell Biopsy

S. A. GUNN, M.D.
J. ERNEST AYRE, M.D.
Miami, Florida

It has recently been shown by one of us (JEA) that in preclinical cancer of the cervix, cytology by the surface cell-biopsy method showed the presence of malignant cells in 99% of cases later confirmed as early cancer by ring biopsy and total hysterectomy. However, by random punch biopsy with no target lesion present, tissue biopsy showed variable accuracy which in some cases was less than 50%.

In cases reported cytologically positive for malignancy, a ring biopsy[1] is desirable if no target lesion of the cervix is present. Because of the frequent negatives histologically reported after biopsy, it seems apparent that ring biopsy is not commonly used, but rather that a random punch biopsy is the procedure usually followed. This may be due to the fact that ring biopsy usually necessitates hospitalization, expense and a great deal of work for the pathologist and his staff.

There have been various methods devised whose objective was to select suitable sites for biopsy. Traut[2] reviews the previous methods used for determining sites for biopsy, in the following manner. The colposcope, in use in Europe, has not found favor in the United States. The Schiller test, designed to select areas for biopsy on the fact that malignant areas do not take the iodine test, is not infallible as benign pathological processes produce scarred areas that do not take the stain. Foote at Memorial Hospital, New York City, stressed four point biopsy, specimens taken at 12, 6, 3 and 9 o'clock. This method will certainly increase the number of histological confirmations on positive cytology in preclinical cancer of the cervix. However, this is a radical procedure unsuited for repeated use and again there is an increased work load on the pathologist. If the site for biopsy can be demonstrated by simple means, the number of biopsy specimens will be reduced, there will be less scarring and accuracy of tissue confirmation will be increased.

A method has been developed which is designed to facilitate histological confirmation of positive cytological smears. This method points out a cytological target zone for biopsy in cervices that are free from suspicious or target lesions and thus lessens the load on the overworked pathologist. This technique can be applied both to nulliparous cervices and parous cervices with slight modification.

A. Parous Type Cervix In this cervix with its usual gaping orifice, there is frequently a "red os". This implies a fairly

From The Cancer Institute at Miami, Cancer Research and Cytology Center, Miami, Florida

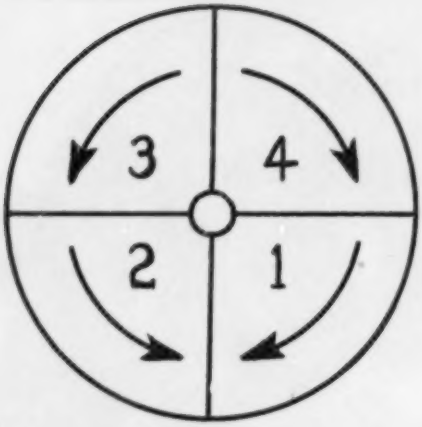

Fig. 1. Schematic drawing showing the direction and order of the segmental scrapings in a multiparous type of cervix.

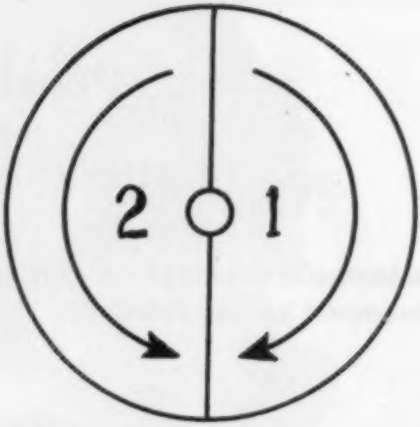

Fig. 3. Schematic drawing showing the direction of the segmental scrapings in a nulliparous type of cervix.

large squamo-columnar circle and a precise segmental surface cell biopsy can be made. The cervix is divided into four segments, and an instrument can be used which minimizes overlapping of the segments.

In order to minimize contaminating one segmental scraping by another, the direction of the scraping is shown by the arrows in the diagram of Figure 1. Thus, if segment 3 shows positive cells, the biopsy is taken from segment 3. If, however, there

TABLE 1

SEGMENTAL GRADING MULTIPAROUS TYPE CERVIX (Figure 1)

	Segments				
	1	2	3	4	Comment
Case 1, Age 30 2 Children - No Target Lesion	II	II	0	II	Segment 1 showed preponderance of cells with anaplastic features. Biopsy would be taken from Segment 1.
Case 2, Age 24 1 Child - No Target Lesion	I	I	II	I	Segment 3 showed cells with marked anaplastic features. Biopsy would be taken from Segment 3.
Case 3, Age 31 2 Children - No Target Lesion	0	II	I	I	Segment 2 showed cells with minimal anaplastic features. Biopsy would be taken from Segment 2.
Case 4, Age 27 2 Children - No Target Lesion	II	II & III	II	0	Segment 2 showed cells with marked anaplastic features. Biopsy would be taken from Segment 2.
Case 5, Age 20 3 Children - No Target Lesion	I	II	I	I	Segment 2 showed cells with minimal anaplastic features. Biopsy would be taken from Segment 2.

INTERPRETATION OF CELL GRADES

Grade 0	No cancer cells seen	NEGATIVE
Grade I	Inflammatory cells	
Grade II	Anaplastic cells	ANAPLASTIC CHANGES
Grade III	A - Cells of preinvasive type	POSITIVE
	B - Suspicious cells of malignant morphology	
	C - Conclusive evidence of malignancy	
Atypical Cells	Questionable nature	DOUBTFUL

are positive cells from segments 1 and 4, the biopsy can be taken from the junction of segments 1 and 4.

The simple four-winged instrument which has been used to divide the cervix into four segments is shown in A of Figure

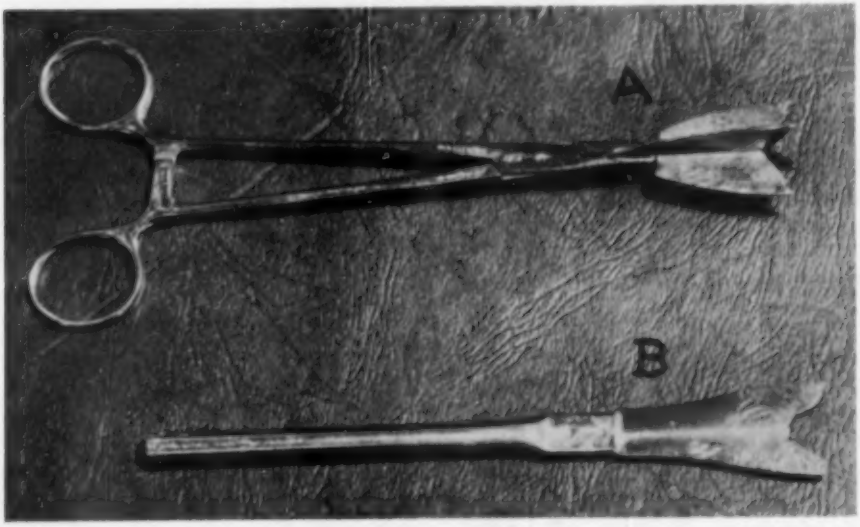

Fig. 2. A. 4-winged instrument for multiparous type cervices.
B. Instrument for nulliparous type cervices. Reduced 2/3.

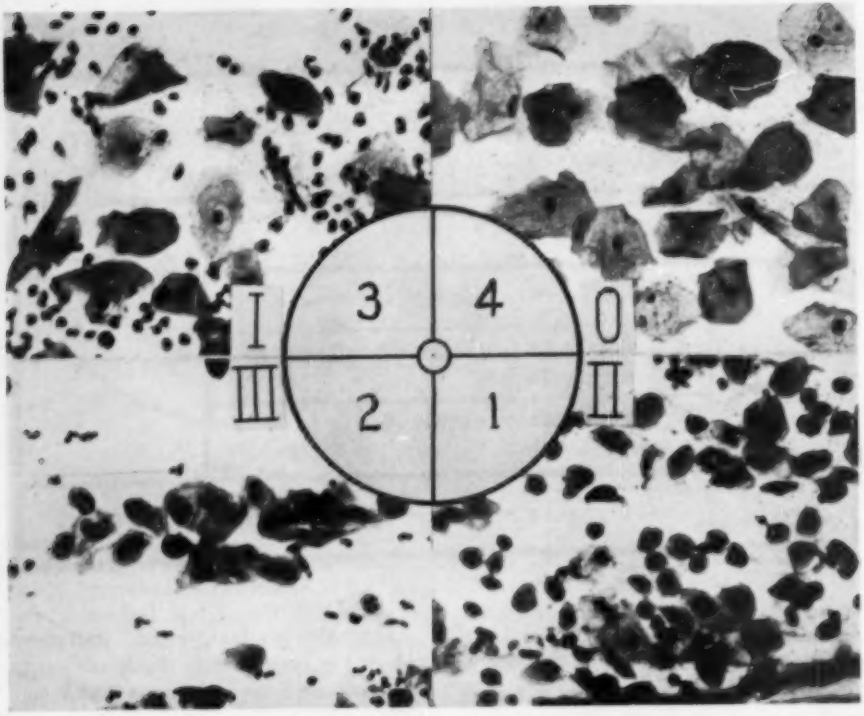

Fig. 4. Composite illustration showing the cell picture and grading that can be demonstrated by segmental scrapings (mag. 185X).

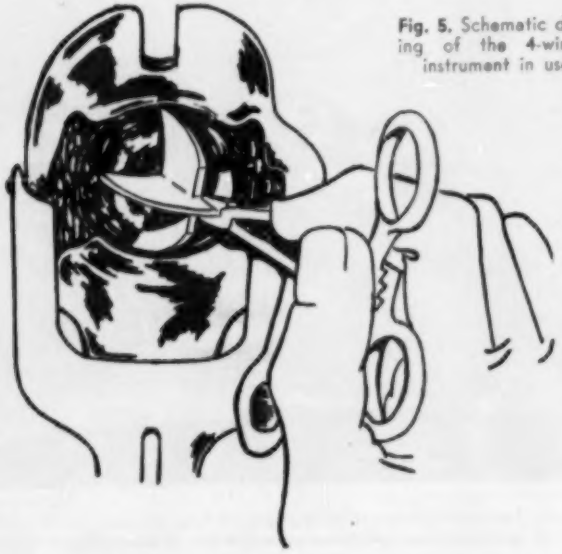

Fig. 5. Schematic drawing of the 4-winged instrument in use.

TABLE 2
SEGMENTAL GRADING NULLIPAROUS TYPE CERVIX (Figure 3)

	SEGMENTS		
	1	2	Comment
Case 1, Age 33 1 Child—No Target Lesion	I	II	Biopsy would be taken from Segment 2.
Case 2, Age 27 No Children—No Target Lesion	II	I	Biopsy would be taken from Segment 1.
Case 3, Age 49 3 Children—No Target Lesion	I	I	No anaplastic cells seen.
Case 4, Age 26 No Children—Slight Erosion Posterior Lip	I	0	No anaplastic cells seen.

2. The scraping of the squamo-columnar junction is made in the routine surface cell biopsy method.

B. Nulliparous Type Cervix In this cervix, the squamo-columnar junction is small, so that only two segmental surface cell biopsies are taken. Thus, if segment 2 shows a positive cytology, then biopsy is taken only from segment 2.

An instrument, B of Figure 2, to bisect the nulliparous cervix can be used, and the scraping is done with the Ayre spatula.

Figure 4 shows the type of cell picture and grading that can be demonstrated by segmental scrapings.

Figure 5 is a schematic drawing of the instrument in use.

The cases in Table 2 illustrate the use of this method. The cytology staining and grading used is the one described by Ayre[1] and is in use at The Cancer Institute at Miami, Florida.

Summary

1. A method is described which is designed to assist the surgeon in selecting biopsy sites on preclinical cancer detected by cytodiagnosis.

2. By the segmental surface cell biopsy a cytological target zone for biopsy is given.

3. An instrument is described which divides the cervix into segments minimizing overlapping and contamination of the segmental scrapings.

4. Nine cases are shown with their grading by segmental surface cell biopsy method.

References

1. Ayre, J. Ernest. Cancer Cytology of the Uterus, New York, Grune and Stratton, 1951.
2. Traut, Herbert F. Screening Methods for Gynecologic Cancer. Modern Medicine Annual, 1952.

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Major Craddock Awarded the Wellcome Prize

The 60th annual meeting of the Association of Military Surgeons, held in Washington, D.C., recently, was the occasion of the presentation of the Wellcome prize. It was won this year by Major Wallis Landes Craddock of the Medical Corps, U.S. Army Reserve. Major Craddock's outstanding essay was entitled "An Evaluation of the Pulmonary Features of Systemic Fungus Diseases" and was a commentary on his own researches into these little-understood conditions. Major Craddock is a son of Texas and military medicine is his career; he is presently Chief of the Medical Service at the V.A. hospital at Fort Douglas, Utah.

The Wellcome prize is presented annually, at the discretion of the Association of Military Surgeons of the United States, for the best essay on medico-military affairs prepared by a member of the Association. Its award is considered a mark of distinction. The prize consists of a silver medal, a scroll, and an honorarium of $500. Mr. Howard B. Fonda, senior Vice-President of Burroughs Wellcome & Co. (U.S.A.) Inc., made the presentation on behalf of the Trustees of The Wellcome Foundation, Ltd.

Ophthalmic Injuries and Diseases in General Practice

This summarization attempts to cover the essential information on the subject, including therapy, and is designed as a time-saving refresher for the busy practitioner.

PART I

The following classifications of ocular conditions have been adopted: (1) Injuries and conditions affecting the lids, (2) lacrimal apparatus, (3) conjunctiva, (4) cornea, and (5) deeper structures.

Injuries Painstaking examination is of the utmost importance in all traumatic injuries of the eye. Since an apparently trivial wound may be the entrance point of a foreign body causing severe damage to the deeper structures, examination must be thorough. The patient's vision should be ascertained, at least roughly, and recorded for the protection of all concerned.

Foreign bodies, the most frequent form of eye injury, should be searched for in good light after instilling a local anesthetic if necessary. Both lids are turned back and the entire conjunctiva closely inspected with the binocular loupe. Foreign bodies on the conjunctiva may be removed by a stream of saline or by wiping with a moist cotton-wrapped applicator. If a corneal body is resistant to a single wipe of the applicator, it may be removed by the point of a sterile blade or spud, or an 18 to 25 gauge hypodermic needle may serve the purpose.[1] Irrigation with saline should precede and follow its removal. Thereafter, a drop of fluorescein is instilled and flushed out with normal saline or boric acid solution to reveal the break in the cornea. An antiseptic or antibiotic preparation in either liquid or ointment form is instilled. Addition of a local anesthetic to the antibacterial are sometimes advisable, and oral analgesics helpful. Mydriatics may be required in corneal injury and either hot or cold compresses may be applied. In all cases of corneal foreign bodies, the eye should be patched for at least 24 hours.

Intra-ocular foreign bodies must be treated by the specialist but immediate measures are the use of atropine to dilate the pupil and the initiation of local and parenteral antibacterial therapy. It is a well established principle that tetanus antitoxin or toxoid be given to all patients with penetrating wounds of the eye, after first testing for sensitivity to horse serum.

Because of the small amount of tissue in the lids, *burns* affecting them are of especial importance and every effort must be made to treat them without the loss of skin or formation of scar tissue. After thorough cleansing of the burned area with sterile saline or boric acid solution, vaseline gauze or boric acid ointment is applied, followed by sterile cotton waste

dressings held in place by an elastic bandage or stockinet. Frequent dressings and debridement are avoided to reduce the chances of infection. Severe burns of the conjunctiva and cornea due to heat or chemicals frequently result in irreparable damage to vision. The immediate treatment consists of really copious lavage preferably with saline, boric acid or even water. The lids are everted so that particles of dirt saturated with the chemical or charred tissue and debris from thermal burns will be completely removed. The importance of complete removal of any chemical by prompt copious lavage is of utmost importance to stop further action of the chemical. In burns due to acids or alkalies, neutralization may be attempted by free lavage with 1.5% sodium bicarbonate solution for acid burns and with 2% acetic acid solution for alkali burns. The prompt free use of lavage is more important than losing time in preparing neutralizing solutions. An antiseptic ointment should be instilled and analgesics given for pain. Other therapeutic measures include 1% atropine for dilating the iris and breaking of adhesions between the lids and globe with a glass rod, followed by boric acid ointment. This ointment is contraindicated in acid burns. Use Terramycin ung., Aureomycin ung., Sod. Sulamyd 10% ointment, ung. Metaphen 1:3000, or Butyn ointment and solutions Sod. Sulamyd 30%, Gantrisin sol., Terramycin or Aureomycin drops, Furacin liquid, Metaphen sol. 1:2500. Agatston[2] and by boric acid ointment. Agatston[2] and Woods[3] have recently described alkali burns of the cornea that responded to either the topical or parenteral use of cortisone, 5 of 7 patients showing dramatic improvement. Others[4,5] also note encouraging results with cortisone locally as the suspension in ½ or 2½ per cent strength or Cortomyd suspension or Cortone ointment with or without antibiotics. For instance ung. Neosone contains Neomycin and Cortisone while Cortone contains bacitracin and systemic use of cortisone or corticotropic hormone in chemical and thermal burns. However, because of the very nature of burns and their severe sequelae, patients suffering such misfortune should be referred promptly to an ophthalmologist.

Contusions and lacerations are other common injuries to which the eye and its adnexa are liable. In the first 12 to 24 hours, the "black eye" is best treated with cold applications to prevent further extravasation of blood into the tissues. After this time, warm compresses will aid somewhat in resorption. In all cases of blows which knock the patient down or cause severe pain or swelling of the lids, the extent of injury should be determined by meticulous examination. Some of the possible effects of a blow on or about the eye are rupture of the border of the iris, iridodialysis (separation and displacement of the iris), hemorrhage into the anterior chamber, traumatic cataract, dislocation of the lens, edema of the retina and choroidal rupture. Thorough study of the interior and exterior of the eye and also retinal detachment will reveal such injuries which require treatment by a specialist. Any patient who complains of blurred or reduced vision after a blow on the eye should also be sent promptly to an ophthalmologist. Emergency treatment consists of alleviating pain, if necessary keeping the pupil dilated with 1% atropine (except when the anterior chamber is full of blood or when rise of intra-ocular pressure may occur)[6] and systemic and local use of antibiotics or sulfonamides. Usually a firm dressing should be applied and covered with a stiff shield. If restive the patient should, if possible, be kept at bed rest during transportation for definite care. He should be strongly warned against stooping over, straining in any way or squeezing the eye, since these may cause or aggravate any prolapse of ocular contents. Duke-Elder[7]

considers that topical cortisone may well prove useful in controlling inflammatory reactions to trauma. Thorpe[5] reports that traumatic reactions are definitely reduced with cortisone, permitting treatment of etiologic factors by antibiotics and other means.

Minor lacerations of the lids may be sutured using silk (No. 000) and small, 3/8 inch, curved needles. The parts are brought together as accurately as possible and without tension. The contour of the lid should be maintained and the margin of the lid preserved without buckling to prevent future deformity. Major lacerations and those through the whole thickness of the lid or involving the lacrimal apparatus must be cared for by a specialist in plastic surgery of the eye.

A worthwhile discussion[6] of the treatment of ocular injuries in general practice appeared recently. This could profitably be consulted for amplification of points mentioned above.

Conditions of the Eyelids Common ocular complaints with which the physician has to deal are the obviously inflammatory conditions of the eyelids, including styes, chalazion, insect bites, blepharitis and dermatitis. Although their diagnosis and treatment may be familiar, prompt recognition and treatment are important if only because of their frequency of occurrence in general practice.

Edema of the lids due to blows has already been discussed in the section on injuries. Pale edema of the lids has long been associated in the lay mind with renal and heart disease. While such swelling may be due to these diseases, in such instances the edema is pale and pits on pressure, is usually preceded by or accompaned by other symptoms of the disease. On the other hand, pale edema of the lids and conjunctiva may be the only or one symptom of trichinosis; when not ascribable to other causes, such edema should arouse suspicion of trichinosis, a frequently over-looked disease. Edema that appears during rest and recedes on arising suggests either chronic sinusitis or a circulatory disturbance. Allergic reactions may cause swollen lids. Transient attacks, usually without inflammatory symptoms, are commonly found in women, generally near the time of the menses.

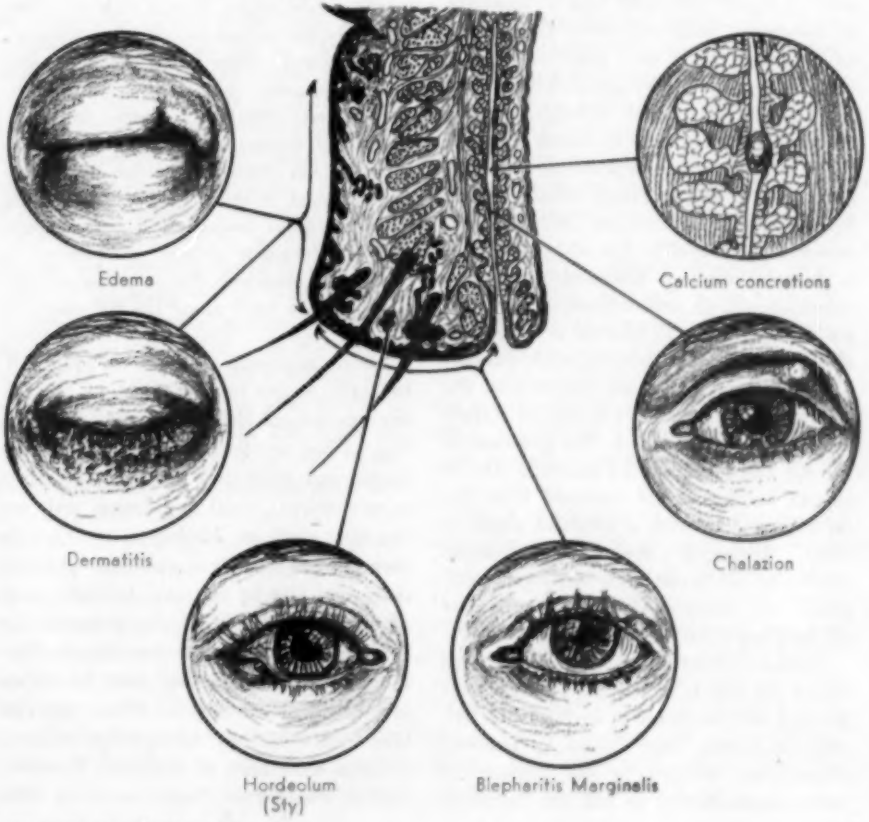
Depending on its site, localized inflammatory edema precedes appearance of a sty or infection of a meibomian gland, acute dacrocystitis, furuncle and abscess. The swelling and redness due to erysipelas usually involve both eyelids as part of a generalized process. In this potentially dangerous condition, local applications to the closed lids of ichthyol ointment on lint, moistened occasionally with hydrogen peroxide, are used for comfort and the necessary systemic antibiotic or sulfonamide treatment prescribed. For edema of insect bites, cold compresses are used. Antihistaminics by mouth and topically may be of value.

Dermatitis of allergic or chemical origin occurs frequently around the eyes because of their relatively exposed condition to noxious agents. In true dermatitis one or all the lids are reddened and more or less swollen, and itching is intense; overt lesions may be absent. Recognition of the offending agent is imperative. Cosmetics, including nail lacquers and soaps, are common offenders and inquiry should be made about any such newly used preparations. Dermatitis may be due to the persistent lacrimation accompanying inflammatory conditions of the eye and, in combination with acquired sensitivity to a drug used locally in the eye, may lead to severe irritation of the surrounding skin. Drugs to which hypersensitivity sometimes develops include the alkaloids like atropine and physostigmine, local anesthetics, certain heavy metals (mercury), the sulfonamides and antibiotics, or indeed to practically any therapeutic agent. Most drugs may be used for a considerable period before sensitivity appears, although it may also develop promptly. Occasion-

ally seborrheic dermatitis of the scalp or eyebrows spreads to the lids with development of itching cutaneous lesions; pediculi may become established on the lashes. One per cent sulfur ointment relieves the former but treatment of the basic seborrhea should be undertaken. Applications of 3 per cent ammoniated mercury ointment are used for pediculi.

Treatment of dermatitis of drug origin consists essentially of removal of the offending agent; lesions generally subside within a few days. While an unknown cause of dermatitis is being sought, elimination of water and liquids from contact with the inflamed skin brings relief. Slightly warmed zinc oxide ointment U.S.P. may be left on overnight at least, or Lassar's paste (Zinc Oxide Paste U.S.P.) is a good palliative in chemical, physical or allergic dermatitis. Antihistamines by mouth and topically also provides relief, but the ointments may in turn cause local reactions. Applications of ice are definitely contraindicated since they tend to increase swelling of the eyelids in this and similar conditions. Cortisone, applied topically, often brings about almost immediate relief, even in cases of long standing allergic conditions of the lids.[9,10] Acute eczema of the lids and allergic dermatitis cleared rapidly after

Fig. 1. Cross section through upper eyelid showing areas in which eyelid diseases occur.



application of cortisone to the involved skin several times daily.[10,11] The encouraging results in allergic blepharitis are also noted by Leopold.[4,12] Recently Hydrocortone, Cortef, Cortril, by mouth and in suspension, and ointments have met with considerable success in the treatment of general and ophthalmic allergies.

Chalazion, a small lump or cyst occurring in the upper or lower lid, appears most often in the inner surface of the tarsus and arises from low-grade infection of one or more meibomian glands; Incomplete styes may persist in this form. Swelling is due to lack of drainage and epithelial debris, with subsequent inflammatory infiltration, which subsides. Upon palpation a more or less solid mass is felt connected with the tarsus over which the skin is freely movable. The conjunctiva is somewhat reddened over the tumor, or a pearly gray area may correspond to the long axis of the gland. Long-standing chalazia may break through the conjunctiva and extremely irritating granulations rub on the conjunctiva. Chalazia developing in the excretory duct of a meibomian gland may project from the free border of the eyelid. The only treatment is surgical removal after adequate deep subcutaneous or subconjunctival anesthesia with procaine. If removal is done from the skin side, the incision is made parallel to the lid margin; on the conjunctiva, the incision is perpendicular to the lid margin over the involved gland. The contents of the sac and especially its resistent capsule should be thoroughly removed from the tarsal cartilage with a trephine blade or curet. Antiseptic drops or ointments should be continued until healing is complete; hot compresses aid resorption of the postoperative reaction.

Calcium concretions commonly form within the glands of the lid. If these wear through the conjunctival surface and irritate the cornea, they should be removed through an incision in the conjunctiva made perpendicular to but not including the border of the lid. Similar postoperative treatment should be carried out to prevent any infection.

Hordeolum (stye) of the external variety is due to acute infection of one or more Zeis or Moll glands of the eyelid with a pyogenic organism, usually *Staphylococcus aureus;* the more severe internal stye is an infection of the meibomian glands. Redness precedes swelling which varies in degree, depending upon how greatly the position of the stye causes interference with the venous flow of the lid and with the degree of inflammatory involvement. Pain is often distressing. Palpation reveals a small sensitive area near the border of the lid. Within 48 hours, the external stye points at the lid margin or the internal stye, perhaps, more slowly, at the conjunctival surface. It may rupture spontaneously, be incised or subside gradually. Hordeola most often affect young people with blepharitis, especially if there are uncorrected refractive errors or other sources of eyestrain, poor general health or infections elsewhere in the body. Undernourished children or those recovering from infectious diseases and girls at puberty are frequent victims. Recurrence is commonly observed. Crops of superficial pustules may arise along the flat edges of the lids.

Active treatment of styes is indicated. In early stages cold applications for 15 minutes several times daily may be abortive, or hot wet applications hasten localization and assist drainage after the latter is established. Local instillation with antiseptics such as Methapen or Furacin preparations or sulfa or antibiotic preparations may also be curative. In some cases parenteral penicillin or a sulfonamide or other antibiotics such as Aureomycin, Terramycin or combinations may be necessary to cause resolution. When suppuration occurs without spontaneous rupture, incision sometimes is required. However, topical Pontocaine drops are often suffi-

cient and most common due to the brevity of the procedure. When used the incision should be made with a very small sharp knife in the skin parallel to the edge of the lid for the external stye and on the conjunctival surface perpendicular to the lid over the long axis of the meibomian gland for the internal type. The incision should be 4 to 8 mm. long, and either short-acting general anesthesia or thorough infiltration anesthesia of the surrounding tissues should first be established because of the painful nature of the operation. Hot, 15 minutes fomentations are continued. Applications of anti-infective ointments or drops before and after establishment of drainage are essential, with continuation for some weeks to prevent recurrence. Repeated or resistant attacks often yield to a course of staphylococcus toxoid or vaccine or to an autogenous vaccine given twice weekly in ascending dosages for at least two months, while local treatment is continued. A careful search must be made for refractive errors, heterophoria and ametropia, which, if found, should be corrected. Appropriate measures are taken to correct any general disorders.

Blepharitis marginalis, a subacute or chronic inflammation of the cilia and glands of the eyelid margin, may be either of the squamous or ulcerative variety. In the squamous type the skin on the margin of the lids around the cilia is swollen and covered with fine white or gray flakes or scales resembling dandruff. The easily removed scales leave a hyperemic base. There is often an accompanying seborrhea that may collect around the base of the cilia as yellowish crusts. Absence of an ulcerated base when the crusts are removed differentiates the milder form of the disease from blepharitis ulcerosa, in which close inspection of the lids reveals small elevations pierced by cilia. Upon removal of the cilia pus extrudes from the follicles because of suppuration of the follicle and adjacent sebaceous glands. These ulcers heal with scar formation with a subsequent patchy appearance of the lids. The edges of the lids are thickened and red, and continued chronic infection leads to severe deformities of the eyelid margins, turned in cilia (trichiasis), obliteration of the puncta, imperfect lid coaptation, among others. These conditions in turn lead to abnormalities of tear flow, with reddening, excoriation and dermatitis of the lids developing eventually into true eversion of the lids (ectropion).

Blepharitis more often afflicts children and adolescents, sometimes disappearing with age, while anemia, tuberculosis and poor nutrition predispose to the condition. Among adults, common general causes are excessive exposure to wind, smoke, dust and heat; loss of sleep and prolonged use of the eyes under unhygienic conditions are contributary factors. This holds also for uncorrected errors of refraction and muscle imbalance which must be corrected before local or general treatment will succeed. An accompanying seborrhea of the scalp my be present. Chronic inflammation of the conjunctiva and excessive lacrination frequently accompany blepharitis.

Blepharitis is often a stubborn therapeutic problem, although some cases respond rapidly to simple measures. Therapeutic results depend directly on accurate determination of the cause or causes of the disease and on the thoroughness with which the eyelids are prepared for treatment and the care with which the latter is carried out.

Before application of drugs, the eyelids must be thoroughly washed with warm water and bland soap or shaving cream. If scales still persist, pledgets of cotton wet with hydrogen peroxide or two per cent sodium bicarbonate should be applied to the closed lids for a short time. Thereafter scales may be removed with pieces of soft lint or with an applicator wound with moistened cotton; the lids are then thoroughly dried.

Drugs used for blepharitis are best applied in an ointment base which serves to soften crusts, facilitate their removal and prevent occlusion of the opening of the palpebral glands. The ointment is applied at night by placing a small amount on a cotton-wound applicator and rubbing the latter gently along the margins of the eyelid on either side of the eyelashes. With care no ointment need reach the conjunctiva. The process is repeated in the morning before breakfast; excess ointment is removed only if the patient must leave the house. An ointment especially recommended by McCool[13] is: phenol, 2 grains; ichthyol, 6 grains; liquid petrolatum, 10 minims; ointment of rose water, 1 drachm; zinc oxide ointment, 1 drachm. Other useful ointments are: boric acid, 2 per cent; oil of cade, 5 per cent; ammoniated or yellow oxide of cercury, 1 or 2 per cent; ichthyol, 2 to 5 per cent; tetrabrompyrocatechin (Novoform), 10 per cent; salicylic acid, 1 or 2 per cent; sulfonamides or antibiotics in appropriate strengths. In blepharitis ulcerosa, in addition to overnight applications of medication on lint bandaged in place, diseased cilia should be removed with forceps and the ulcers touched with 4 per cent silver nitrate solution, followed by irrigation. Bland collyria are generally prescribed for the secondary conjunctivitis accompanying blepharitis. For daytime use, drops of antibiotics or sulfonamides cautiously used, or benzalkonium chloride[14] will combat secondary infection. Sometimes relieving concomittant seborrhea of the scalp will provide remission of the lid condition. If the disease seems resistant, remedies should be changed from time to time, antibiotics or sulfonamides prescribed orally, or a course of staphylococcus toxoid or autogenous vaccine carried out.

The latest reports[2,4,5,12,15] on cortisone suggest that the tedious treatment customarily advised for blepharitis may be revised, since a substantial proportion of

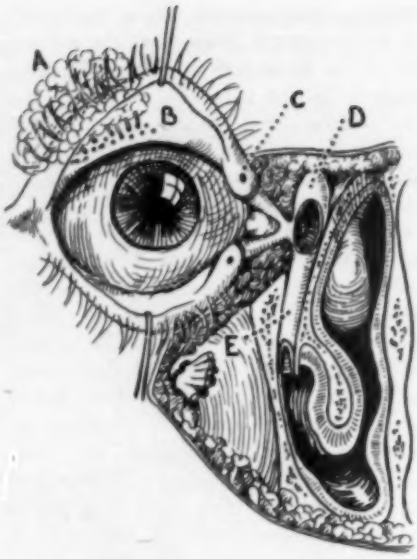


Fig. 2. Structure and position of lacrimal canals and glands.

A. Superior and inferior lacrimal glands.
B. Opening of lacrimal glands in conjunctiva of the upper lid.
C. Opening of the lacrimal duct.
D. Lacrimal sac.
E. Nasolacrimal duct opening into the inferior nasal meatus.

cases of blepharitis and blepharoconjunctivitis respond to cortisone topical therapy. However, it must be remembered that cortisone has no antibacterial action—it is anti-inflammatory in action—and appropriate agents must be continued for control of the infecting organisms. A number of preparations combine Cortone with antibacterial agents. Amongst these are Neosone ointment, ung. Cortone with Bacitracin and Cortomyd—a suspension of cortisone and sod. Sulamyd. Relapse sometimes occurs and this may or may not respond to reinstitution of cortisone treatment.

Lacrimal Conditions Excessive *tearing* is usually due to local causes. It may be constant or intermittent, increased during cold weather, or present at all times or only under certain conditions, it may come

from one or both eyes. A foreign body is the most frequent cause and its removal should stop the flow or tears provided erosion of the cornea has not occurred. Tearing continues until the cornea heals. Treatment of foreign body is described in the section on injuries of the eye.

Tearing may also be caused by conjunctival inflammation especially of a purulent nature, which is readily recognized after everting the lids. The treatment is that of the underlying cause.

Eversion of the lacrimal puncta, the small holes on the upper and lower lids through which tears flow to the lacrimal sacs, may be congenital or caused by inflammation with distorting scar formation, by conjunctival hypertrophy or a chalazion below the puncta. Examination with low magnification reveals the cause. Plastic surgery may be necessary when eversion is due to congenital factors, scar tissue or hypertrophy, while treatment of chalazion or inflammation by appropriate measures will permit the puncta to revert to a normal condition.

Stenosis of the lacrimal duct, usually the result of old inflammation, may yield to repeated probings of the sac with a Bowman's probe up to No. 6 in size, followed by irrigation with a mild astringent and antiseptic solution. Such nonsurgical therapy may be helpful, but usually surgical removal of the infected tear sac or making an opening from the sac into the nose is necessary.

Profuse tearing is characteristic of acute *dacrocystitis*. Redness, pain and edema in the area, fever and leukocytosis may also be present. Acute pyogenic infection of a normal tear sac or of a chronically inflamed sac will cause a phlegmon-like swelling. Treatment is similar to that of any abscess — hot fomentations followed, after pointing, by free incision and drainage. An antibiotic or sulfonamide is given by mouth, penicillin by injection, and benzalkonium chloride nitromersol drops or sulfa or antibiotic preparations are used on the conjunctiva to prevent secondary infection of adjacent areas. The chronic condition can sometimes be cured by dilating the duct under local anesthesia and use of mild antiseptic irrigating solutions. However, surgical removal of the chronically infected sac must often be resorted to in order to prevent the severe sequela of corneal ulcer.

Conjunctival Conditions A large proportion of all eye affections consist of inflammations of the conjunctiva. The number of infectious or toxic agents attacking the conjunctiva is numerous and the clinical manifestations are varied. However, differentiation of the more common conjunctival conditions can usually be made and treatment instituted in everyday practice. Resistant cases call for referral.

Hyperemia, or red eye, unaccompanied by obvious discharge is extremely common and may be due to many causes: exposure to sun, wind, irritating chemicals or smoke. Errors of refraction, with muscular imbalance, or infections of the nasal passages, as well as allergies, may cause it. Red eyes may be secondary to infections of the eyelids, part of a more general facial vascular vasodilatation, or some skin diseases or perhaps be caused by mild infection that does not cause gross discharge. The color varies from light pink to fiery red; it may be circumscribed or the entire bulbar conjunctiva may be involved. Individual conjunctival vessels are clearly visible and small superficial hemorrhages may be present. Conjunctival injection will blanch on instillation of 1:1000 epinephrine but not the deeper redness due to scleritis or iritis which is usually most intense in the limbal area.

Treatment consists of removal of the cause when possible to determine it. Some relief is provided by cold compresses and an astringent collyrium such as ⅛%, phenylephrine or another vasoconstrictor. Saturated solution of boric acid with

epinephrine 1:5000 or the following may be used: zinc sulfate, 8 mg.; boric acid, 0.2 Gm.; epinephrine HCl (1:1000), 15 minims, to the fluid ounce of distilled water.[6]

A type of conjunctival hyperemia characterized by circumcorneal flush may be due to riboflavin deficiency. Doses of riboflavin of the order of 6 mg. daily are given as a test. If improvement occurs, the diet should be corrected.

Conjunctivitis, in addition to hyperemia, is characterized by some type of discharge. But the disease appears in so many forms, some etiologically and clinically distinct and others difficult to define clinically or of undetermined etiology, that thorough examination is required. Because specific agents are now available for many such conditions, identification of the cause should be made if at all possible. Some types of conjunctivitis sooner or later spread to involve the cornea; these forms of keratoconjunctivitis are included among the conjunctividites.

For diagnosis, three types of study are possible: bacteriologic, pathologic and clinical. Microscopic examination of smears and scrapings should be performed in all cases of severe or stubborn conjunctivitis. Study of secretion smears is of particular importance in acute types of conjunctivitis and in the chronic form due to the Morax-Axenfeld diplobacillus. Material for smears is taken from the lower fornix, or, when material is scanty, from the collection at the inner canthus. The dried material on the slide is treated by a simple stain like methylene blue or, much to be preferred, by a modified Gram's stain. Microscopic examination of epithelial scrapings is useful in types of conjunctivitis where bacteria invade the epithelium before they appear in the secretion. Scrapings are also used to determine the presence of inclusion bodies in trachoma and inclusion conjunctivitis and for demonstration of eosinophils in allergic conjunctivitis. To obtain material the anesthetized conjunctiva in the area of maximal activity is lightly scraped with a small platinum spatula sterilized by a flame. The scraping should be heavy enough to remove superficial epithelial layers but light enough so that bleeding is not induced. After the material has dried on the slide, it is fixed by heat and stained with either Giemsa's or Wright's stain. Differentiation between bacteria, inclusion bodies and blood cells is possible with these stains. The staining technics can be found in standard texts.

Fig. 3. Schematic sagittal section through the eyelids and eyeball. The heavy black line shows the conjunctival sac and the position of its glands.

S.F. Superior formix
I.F. Inferior formix
K. Krauses' glands
W. Tubular glands of Wolfring
H. Crypts of Henle

Pathologic examination in cases of conjunctivitis is limited to a study of the cell cytology of exudate. A slide is prepared

and stained by the Giemsa technic. A predominance of polymorphonuclear cells suggests a pathogenic coccus and a predominantly cosinophilic finding suggests an allergic base. A preponderance of mononuclear cells points to a virus such as that of acute follicular conjunctivitis or epidemic keratoconjunctivitis and many macrophages are suggestive of trachoma.

A large group of changes are searched for during the clinical examination and the etiology of many cases of conjunctivitis can be determined by this means without recourse to bacteriologic methods. Ideally a combination of the two methods is best, of course, but clinical study alone is often adequate. Differential points in diagnosis, instead of being considered apart, will be included in the discussion of each type of conjunctivitis. Reference to the table shows the main points in differentiating a conjunctival condition from acute iritis and glaucoma. The importance of this primary division is stressed because of the necessity of beginning immediate use of atropine or cortisone in iritis or physostigmine in glaucoma.

Classifications of conjunctivitis adopted here are the following: purulent or hyperacute, catarrhal, lacrimal, pseudo-membranous, follicular, vernal and that due to trachoma and chemical or external irritants.[16]

A. *Hyperacute or purulent conjunctivitis*, due usually to the gonococcus, other cocci, the Koch-Weeks bacillus, or more rarely to other pyogenic organisms, is characterized by marked inflammation and a purulent creamy discharge containing more or less fibrin and many epithelial cells and leukocytes which may dry into heavy scabs on the lids. Despite precautions the condition usually becomes bilateral within twenty-four to forty-eight hours. The conjunctiva becomes intensely

Differential Diagnosis*

	Acute Conjunctivitis	Acute Iritis	Acute Glaucoma
Pupil	normal	small, irregular	dilated
Injection	superficial conjunctival	severe circumcorneal	circumcorneal and episcleral
Iris	normal	muddy, swollen	congested, bulging
Discharge	mucoid or mucopurulent	tearing	tearing
Pain	burning, no severe pain	moderately severe	very severe
Eyeball tenderness	none	considerable	considerable
Eyeball tension	no change	usually normal	increased
Cornea	normal	transparent, perhaps precipitates on posterior surface	steamy
Vision	normal	moderately decreased	considerably decreased

* Adapted from Merck's Manual,[58] p. 429.

red and thickened, especially that visible through the lids, the eyelids are thickened and the lashes matted with secretion; photophobia and lacrimation are marked, but pain is usually absent.

The intact cornea is fairly resistant but trauma leads to corneal ulceration so that great care should be taken during treatment. Ulcers may leave insignificant nebulous scars or lead to loss of the eyeball. However, with the antibiotics, severe complications are seldom seen, if treatment is undertaken promptly.

Gonococcal conjunctivitis is distinguished by the rapid appearance of diffuse cellular infiltration and papillary hypertrophy of the entire conjunctiva, with marked edema of lids and profuse purulent discharge. In rare instances a mild attack of gonorrheal conjunctivitis may simulate simple acute catarrhal conjunctivitis until microscopic identification of the organism has been made. It may also simulate the usual simple catarrhal conjunctivitis in early stages of the acute disease. *Meningococcic* conjunctivitis is usually milder than the gonococcal form, although it may lead to general complications of meningitis and meningococcemia. Cultures are necessary for differentiation of the two organisms, since they are identical upon examination of smears and scrapings.

Treatment of the purulent conjunctivitis is simple and effective. Sulfadiazine, triple sulfa combinations, penicillin, Aureomycin, Terramycin and Chloromycetin are usually efficient when given in full therapeutic doses. If the infection is not well under control by the end of 24 hr., after penicillin has been started, a wide spectrum antibiotic may be added. Local treatment consists of removal of the secretion with a bland solution like boric acid or normal saline. In mild infections topical treatment with an antibiotic alone may suffice, but parenteral or oral treatment is a necessity in severe cases, with the addition of local antibiotic, sulfa or other antiseptic therapy with previously mentioned drugs. Isolation of the patient is maintained during the period of infectivity. While acute purulent conditions have responded to cortisone administered locally,[9,16] it should be remembered that cortisone is not antibacterial and some means of controlling the infection itself is required.

Ophthalmia neonatorum is a term applied to any acute or hyperacute conjunctivitis in the newborn, whatever its causative organism. Determination of the etiology should never be neglected. While the gonococcus is the commonest cause, the pneumococcus, influenza bacillus, *Staphylococcus aureus* and the virus of inclusion conjunctivitis are also frequent infecting agents. In the newborn *gonococcal* conjunctivitis, appearing 2 to 5 days after birth, resembles that of the disease in the adult: abundant purulent discharge with dense conjunctival cellular infiltration. *Staphylococcic* conjunctivitis, on the other hand, causes an abundant secretion with milder cellular infiltration of the cornea, but in contrast with the form in the adult it usually heals without chronicity because the organisms fail to localize on the lids with production of blepharitis. These two forms of ophthalmia yield readily to sulfadiazine, triple sulfa combinations, penicillin and the antibiotics in standard dosage. Penicillin topically, by mouth and parenterally is practically specific for gonococcal conjunctivitis. The staphylococcic type or those caused by other organisms will usually yield to one or another of the sulfa or antibiotic preparations or combinations. Furacin preparations are very useful adjuncts.

A third form of ophthalmia neonatorum is *inclusion conjunctivitis*. While it differs from gonorrheal blenorrhea in the longer incubation period of from 5 to 11 days, symptoms are severe and discharge is purulent and profuse, as in the commoner disease. It appears as acute or hyperacute papillary conjunctivitis with dense cellular

infiltration, much more obvious in the conjunctiva of the lower eyelid and fornix. The comparative sparing of the upper tarsal conjunctiva is a differential point from gonococcal disease. Mild, transient membranes may form. The absence of bacteria in smears and the presence of inclusion bodies in epithelial scrapings stained with the Giemsa or Wright stain are diagnostic. The acute phase lasts from 10 days to three weeks and the chronic stage for up to a year, symptoms gradually subsiding. There are no corneal sequelae. While penicillin is of doubtful value, sulfadiazine, triple sulfa combinations, sod. Sulamyd, and Gantricin by mouth and topically are rapidly curative. If however, there is no response or sulfa drugs are contraindicated, then the various antibiotics should be used with a thought too for some of the older antiseptics. Treatment should be continued for one week after apparent cure to prevent recurrence. The adult type of the disease, described below, does not respond promptly to local sulfadiazine treatment.

Other types of bacterial conjunctivitis in the newborn do not differ from the same infections in adults.

B. *Catarrhal Conjunctivitis.* The point differentiating catarrhal conjunctivitis from hyperacute or purulent conjunctivitis is the thinner, mucopurulent discharge containing a higher proportion of mucus in relation to leukocytes. The disease also runs a milder course and complications, if any, are less dangerous. Two types may be set up for description.

Acute and subacute catarrhal conjunctivitis, occurring independently or concomittently with a respiratory infection, may be due primarily to the pneumococcus. Koch-Weeks bacillus, *Staphylococcus aureus* and, less often, to other bacteria. The pathologic findings are essentially the same, except for intensity of symptoms, and differentiation on clinical grounds is not easy. Because the staphylococcal infection is often the start of a blepharitis or blepharoconjunctivitis that may last for years, it is most important to recognize this form. The acute type is characterized by early inflammatory involvement of the eyelids, by numerous minute punctate fluorescein-containing epithelial lesions more marked in the lower than upper half of the cornea; it has a predilection for the lower half of the conjunctival sac. The Koch-Weeks, influenza and pneumococcal types, however, cause marked bulbar conjunctival injection with numerous petechial hemorrhages, the eyelids are not involved, and biomicroscopy of the cornea using fluorescein reveals few or no punctate lesions. The two notable complications are ulceration of the cornea and toxic iritis. The former, occurring most often in the staphylococcic infection, is rarely serious and heals with the conjunctivitis. Toxic iritis most commonly occurs with the acute pneumococcus infection because of passage of the toxic products into the anterior chamber. The uncomplicated disease, except when due to staphylococci, almost always heals spontaneously within 7 to 10 days. Treatment shortens the period.

Simple mechanical removal of the bacteria by copious irrigation with bland solutions such as boric acid or normal saline solution is useful when the bacteria do not invade the epithelium, as in the staphylococcal or streptococcal types. However, use of one of the following antiseptic agents is desirable: zinc sulfate, a mercurial antiseptic or a cationic agent such as benzalkonium chloride[14] or benzethonium chloride.[15] More prolonged effects are obtained by application in ointment form. Sulfonamides are useful, particularly sulfacetimide sodium which is less likely to cause sensitivity reactions, used in drops or ointment form. In severe cases, sulfonamide, antibiotic, Furacin or sodium propionate preparations such as Propion should be instilled day and night with care to avoid sensitization. When infection is due to Koch-Weeks bacilli or

the pneumococcus which may invade the epithelium, application of 1 or 2 per cent silver nitrate directly to the anesthetized everted eyelids, followed by neutralization with saline solution, is especially useful. Iced compresses provide relief for the swollen lids, while hot compresses are used in later stages when chronicity or catarrhal ulcers develop. No eye patch is permitted.

Atropine and cortisone should be used topically when corneal ulceration or iritis is present, but antibacterial measures are not omitted when infection is present. In addition, in resistant conjunctivitis without complications, cortisone or some cortisone-antibiotic combination or Hydrocortone will often prove effective.

Treatment is continued for some time after clinical healing to prevent recurrences, especially in the staphylococcal infection, and the eyelid margin must be treated simultaneously, as in blepharitis, when the same organism is the causative factor.

In *chronic catarrhal conjunctivitis* there are many predisposing factors: smoke, inadequate rest, overuse of alcohol and probably refractive errors; it may accompany inflammation of the skin and eyelid margins. The usual exciting factors are the Morax-Axenfeld diplobacillus and *Staphylococcus aureus*, which also causes the associated blepharitis. Many other bacteria can cause the condition, although in some cases no specific causative organism can be identified. While symptoms seem slight, the patient's complaints may be marked: constant eye discomfort often worse at night and after use of the eyes for close work; foreign body sensation and burning; absence of itching except when allergic factors are involved.

The clinical findings vary more than in the acute form of catarrhal conjunctivitis. However, the form due to the Morax-Axenfeld bacillus may be recognizable by involvement of the angles, the so-called "angular conjunctivitis", with excoriation or fissuring of the skin at the outer angles. Blepharitis and dermatitis of the lids are most marked in these areas also. Complications occur chiefly in the staphylococcal form, mainly marginal infiltrates and ulcers and minute superficial erosions. Frequent recurrences of the ulcers lead to cicatrization and vascularization that may reduce vision by causing irregular astigmatism. Deformities of the eyelids may result from the prolonged blepharitis accompanying staphylococcal conjunctivitis, as noted previously. Iritis may be present.

In this chronic disease, determination of the causative agent is of importance as a guide to treatment. External irritating factors should be eliminated at once. If the disease is due to the Morax-Axenfeld organism, instillation of 0.25 per cent zinc sulfate solution 3 or 4 times daily, together with application of 0.5 per cent zinc sulfate ointment 2 or 3 times daily to the lids, produces a rapid response. Treatment must be continued for about 4 weeks after apparent recovery to prevent relapse. Two cases of angular conjunctivitis cleared after treatment for 24 hr. with cortisone drops.[19] In cases of apparent failure of zinc sulfate, a complicating staphylococcal infection may be assumed, in which case a sulfonamide ointment is efficacious because it acts on both organisms.

Treatment of chronic staphylococcal conjunctivitis is more complicated and greater persistence and care are necessary. Since the eyelids are the usual source of infection, they should be treated as described above under blepharitis, with especial attention to the removal of affected cilia and crusts. A solution of 0.25 per cent silver nitrate may be applied to the conjunctiva and 1 or 2 per cent silver nitrate applied thoroughly around the cilia, followed by a mercurial ointment. For home use 1:5000 oxycyanide of mercury solution or a similar antiseptic is instilled 3 or 4 times daily and the eyelids

treated twice daily with an ointment containing 1 per cent ammoniated mercury and 1 per cent salicylic acid in petrolatum base. Also useful are the following: merthiolate, 1:5000; nitromersal, 1:3000; benzalkonium chloride, 1:5000; benzethonium chloride, 1:5000. While the antibiotics and sulfonamides are valuable, the frequency of allergic reaction to them suggests trial of other agents as a matter of preference, because these agents should not be used topically over a long period. Wilson[20] has found that this stubborn condition is often cleared up by a short intensive course of an antibacterial agent, followed for several weeks by application of 5% solution of sodium propionate.[21]

Chronic conjunctivitis due to organisms other than staphylococci usually responds to simple antiseptic therapy or local sulfonamides.

The place of cortisone preparations in treatment of chronic catarrhal conjunctivitis has been established. Leopold[22] states that the marginal ulcers of keratoconjunctivitis respond to this agent. Of 34 cases of chronic conjunctivitis reported in the literature, the majority showed considerable or marked improvement, although some relapsed.[7] Eleven cases labelled as allergic were completely alleviated. No response occurred in 3 cases of chronic blepharoconjunctivitis.[19] Leopold[4] sums up the situation by saying that "encouraging results" are obtained in blepharoconjunctivitis with local cortisone treatment.

C. *Membranous* and the less severe *pseudomembranous conjunctivitis* are forms of conjunctivitis in which the fibrinous exudate forms a membrane on the surface of the epithelium. These membranes are distinguishable by their thick opaque character from the thin transient membranes occasionally seen in catarrhal conjunctivitis. The disease is principally due to *Corynebacterium diphtheriae* and *Streptococcus hemolyticus*. The former type, rare in this country, is diagnosed by finding the organism in smears or cultures and treatment is by antitoxin, amounts of up to 40,000 units being given for severe infections combined with topical, oral and parenteral penicillin. The streptococcal type of the disease may be diagnosed by smears, although the organisms often appear as diplococci and may be confused with staphylococci; cultures are certainly diagnostic. The exogenous forms of the conditions, while self limited, may lead to destructive lesions of the cornea and conjunctiva unless treated promptly. The endogenous form is more stubborn and recurrent membranes may appear for years. Treatment of both types consists of full doses of penicillin, the sulfonamides and antibiotics supplemented in the exogenous variety with local applications of the sulfonamides and antibiotics.

(This presentation will be concluded in the next issue with references.)

Schizophrenia

The Role of the General Practitioner in Its Treatment

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While the treatment of schizophrenia is usually accomplished in the psychiatric hospital, the alert and interested general practitioner may make a number of valuable contributions to the therapy, and these contributions may extend far beyond the matter of early diagnosis.

It is to the family doctor, usually, that the patient or the relatives turn first as the disease begins, or it is the family doctor who is first to observe mild but significant symptoms of which neither the patient nor the relatives may be conscious. The doctor's contacts with the family, often social as well as professional, may give him special opportunities to observe. And while the social relationship may sometimes be thought a hindrance to action, it does not relieve the doctor of his duty to take prompt and effective steps as soon as he suspects the diagnosis.

It is not necessary to wait until the diagnosis is certain, for by then it may be too late for successful treatment. Nor is it advisable to wait for spontaneous recovery, which is rare; or to attempt to ease the situation with a diagnosis of psychoneurosis, a disorder which may be quite as incapacitating as schizophrenia. For the purposes of the family physician, it suffices to decide that the patient has a serious, totally or partially disabling mental disorder, whether psychosis or psychoneurosis, and to see to it that appropriate treatment is made available.

The situation is somewhat similar to that presented by an acute surgical abdomen where it is seldom necessary to make a final and accurate differential diagnosis before arranging for a laparotomy.

The vast variety of symptoms and signs which may be exhibited by schizophrenics has been described so often that only a brief recapitulation of the more important ones seems appropriate here. A single patient may at one time or another in his illness show one or more of the following:

1. Failure of the Critical Judgment

In the most extreme cases, this is evidenced by delusions of various kinds, by bizarre somatic complaints, by hallucinations. The delusions may be of reference, influence, persecution, grandeur, poverty or guilt. They may involve misidentification of persons, things, motives and events. The somatic delusions are usually ideas contrary to the possibilities of anatomy (e.g., spinal fluid draining into the seminal vesicles) or misinterpretations of common, normal sensations (e.g., attributing the sensation in a foot which "has gone to sleep" to radar impulses sent by the Communists). In mild cases, the failure of the judgment may be shown in apparently plausible behavior, such as frequent change of job for flimsy excuses. In some cases, the symptoms may be such that they could be interpreted as normal, except that their number and variety eventually draw them to the attention of the doctor or the family.

2. Failure of the Drive and Purpose

This is usually shown in a sudden or gradual change in the personality. A patient, previously normally energetic and purposeful, begins to show a reduction in energy. He spends more time in bed, gets up later, stays up until late hours, reading, day dreaming, or just doodling. He shows a slight or marked decline of interest in his appearance or his work. If he is a student, his grades begin to fall because he concentrates poorly, spends too much time dreaming. He reduces his social and family contacts (withdraws, as the psychiatrists say). He becomes increasingly vague in his ambitions, plans and even in his complaints, until finally his speech and writing become unintelligible because so many intermediate steps in the reasoning are omitted as the patient skips rapidly from thought to conclusion or because the allusions become so personal to the patient that others cannot follow them.

3. Dissociation of the Mood and Content This is the so-called splitting of the personality. In this condition the emotional reaction is not appropriate to the ideas, and the patient may, for example, giggle as he describes the weird and painful changes which he believes have occurred in his anatomy.

The symptoms may extend through a vast gamut between slight apathy to a delirium associated with suicidal or homicidal violence. The symptoms may change very rapidly or they may be more or less constant. They overlap the symptoms of depression, elation and the various psychoneuroses in some cases, so that a differential diagnosis becomes a matter of difficulty, but an exact diagnosis is not required for referral.

Having decided that psychiatric treatment is required for a suspected case of schizophrenia, the general practitioner next selects the psychiatrist to be called in consultation. While his choice of psychiatrists may be severely limited by the supply in his region of the country, the family physician has the duty of examining critically the qualifications of those psychiatrists who are available, just as he examines the qualifications and the performance of the surgeons and other specialists to whom he makes referrals. Having selected a psychiatrist, the family physician has the further duty of observing, at close range or from a distance, the various therapeutic maneuvers and their results, so that he can be guided in the referral of his next patient. That is, while the psychiatrist examines and treats the patient, the referring physician examines and judges the psychiatrist.

For this judgment, more is required than a hasty scanning of lists of specialists. Regardless of his paper qualifications, such as his medical school, residencies, hospital appointments, society honors, and the like, nothing can be as satisfactory in the rating of a specialist as his percentage of recoveries and the energy and persistence with which he attacks difficult therapeutic problems. Excuses for failure, no matter how elegantly or incomprehensibly phrased, can never be as satisfactory to the patients, families, and referring physicians as successful treatment.

However, in the event of failure, the psychiatrist should be capable of making some constructive suggestion in a tactful manner to the family and the referring physician. He should, at the very least, be able to recommend some safe refuge where the patient who has failed to recover may await the discovery of some new form of treatment.

What should the family physician expect from the competent psychiatrist to whom he has referred a patient? First, he may expect the psychiatrist to take a serious and sober view of the situation, realizing that schizophrenia is a dangerous disorder which requires prompt, energetic, and persistent treatment. The psychiatrist chosen will be sufficiently modest to believe that his powers of psychotherapy alone probably will not suffice. He will be sufficiently pessimistic to believe that symp-

tomatic or custodial treatment will not do.

The majority of psychiatrists agree that the treatment of choice in schizophrenia is shock therapy. Electric shock will suffice for some patients, others will require insulin shock, and others will require that both types of treatments be given alternately or simultaneously. While some patients will recover after a few treatments, some who have the capacity to recover will need 60 to 80 insulin comas and 30 to 50 electric shock treatments, given in a single series without any rest periods. To abandon patients to their fate, before the resources of shock therapy have been exhausted, is evidence of a half-heartedness which is not consistent with good medical practice.

Before, during, and after the administration of shock therapy, the efficient psychiatrist is alert for physical factors which may cause a psychosis clinically indistinguishable from schizophrenia. Among these factors may be mentioned anemia; cardiac and pulmonary diseases interfering with oxygen transport; a host of drugs and household or industrial poisons interfering with the normal chemistry of the brain; allergies; endocrine imbalances and dysfunctions of various kinds; vitamin deficiencies; and anatomical lesions in the brain, such as senile changes, arteriosclerosis, hemorrhage, tumor, syphilis and other infections, and degenerative disorders such as multiple sclerosis. That is, the alert psychiatrist recognizes that psychological symptoms are not necessarily of psychological origin, and that psychosomatic problems are not always entirely psychic.

In his investigation of these physical factors, the psychiatrist has many opportunities to demonstrate his ingenuity, and to enlist the aid of the referring physician. He is free, and sometimes obliged, to disregard the diagnostic strictures of internists, or to examine critically the standards of body chemistry which have been established as normal for the non-psychotic population.

This is well illustrated in the psychiatrist's administration of insulin shock therapy to patients who do not have diabetes. Although the glucose tolerance is normal, insulin therapy has produced many thousands of good results.

Other examples may be cited from the endocrine field. Adrenal cortex extract (to be distinguished from cortisone) has proved helpful in some cases. Thyroid extract, given in quantities alarming to some physicians and over long periods, has helped in many others. Estrogens, androgens and corpus luteum hormone also have been beneficial in selected patients. Lipotropic factor therapy has been reported successful in some patients in whom evidence of liver damage was, by ordinary standards, slight or negligible.

The fact that these experiments with endocrine and nutritional factors are not uniformly successful is of small interest to those patients who recover after receiving them. The alert psychiatrist is satisfied with each recovery, no matter how achieved, and no matter how infrequently a particular method may succeed. While he might prefer to do adequately controlled studies on his patients and devise critical experiments for the testing of his ideas, he is not blind to the immediate and pressing requirements of the patients under his care. He knows he must provide first for his present patients and only later, if time permits, for the generations yet unborn.

Patients who seem to recover but then relapse during a course of shock therapy are a special challenge to the psychiatrists. They are not immediate candidates for lobotomy. At least some of them are examples of an unusual type of schizophrenia called periodic catatonia, and may be expected to respond to adequate treatment with thyroid extract and vitamins. The same patients often have exhibited a periodic course before treatment, but this information frequently is not elicited un-

less a careful history is taken from the family. In women, the rhythmic course may be erroneously ascribed to the menstrual cycle, and such patients may be subjected to mutilating and futile operations on the reproductive tract.

If success in treatment is achieved, no matter how, the patient is returned to his family physician, who then has the opportunity of supporting the recommendations for preserving the recovery. A patient who is freed of symptoms by shock therapy may be advised to return for regular maintenance treatments. If he has recovered under thyroid, adrenal cortex, sex hormone, nutritional or anti-luetic therapy, he may have a definite program of treatment to carry out at home, under the guidance of the family physician. While the rationale of the treatment may not be clear either to the psychiatrist or to the referring physician, the good result may be quite clear. In such cases, the general practitioner makes a valuable contribution when he sees to it that the directions of the psychiatrist are followed; or he may contribute to a relapse by scoffing at the recommendations.

Summary

The general practitioner has the following opportunities and obligations in the treatment of schizophrenia:

1. Early diagnosis and prompt referral.

2. Selection of a psychiatrist who is energetic, persistent, alert to physical as well as psychological factors; willing to try methods which are not necessarily successful in a large percentage of cases but which work brilliantly in some; willing to disregard when necessary the standards established for the diagnosis and treatment of the non-psychotic population; unwilling to sell humanity short by assuming that the last discovery has been made; unwilling to be satisfied with failure.

3. Support of the recommendations of the psychiatrist for treatment after the patient is discharged from the hospital.

Milwaukee Sanitarium.

Diabetes Mellitus

Changing Etiologic Considerations

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The beginning of the modern era of knowledge of diabetes mellitus may probably be dated back to the demonstration by Minkowski and Von Mering in 1889 that extirpation of the pancreas induced a clinical state of diabetes. Yet today, more than six decades later, despite the continued progression of well-conceived and well-executed experiments, diabetes must still be viewed as a syndrome of many origins and variable characteristics, and having as a common denominator the triad of hyperglycemia, glycosuria, and impaired glycogen formation.

The observations of Minkowski and Von Mering are still among the basic contributions, and are of fundamental importance to the understanding of diabetes. It is therefore somewhat paradoxical that this same work, by implicating the pancreas as the sole etiologic factor in diabetes, has seemed at times to have impeded medical thinking.

Reconsideration of the pathogenesis of diabetes in the light of recent investigation tends to challenge the thesis that pancreatic beta cell deficiency is the instigating feature of all varieties of human diabetes, though there is little doubt that if the diabetic state is sustained long enough, permanent beta cell damage may ultimately develop.

An attempt has been made in Figure 1 to illustrate schematically certain of the gross steps in normal carbohydrate metabolism. The initial step in the diagram is the elaboration of insulin. The synthesis of this hormone depends not only upon the functional integrity of the beta cells, but also upon the availability of insulin precursors. Once elaborated, the insulin molecule is depicted as traversing the blood stream to a parenchymal cell of the liver. The transit as indicated is not without its theoretical dangers, for humoral agents, including hormones and insulin antibodies[1], may conceivably inactivate or destroy the insulin molecule. At the cell, insulin is represented as facilitating in some manner the entrance of glucose into the metabolic cycle. Finally, two of the possible fates of glucose are considered: (a) via the action of numerous enzyme systems glucose may be metabolized ultimately to carbon dioxide and water; or, (b) glucose may be stored adrenal cortex, the anterior pituitary, and possibly the thyroid gland, may be capable of inhibiting certain of the foregoing metabolic processes. In addition, other diabetogenic agents may block carbohydrate metabolism.

Interference with the metabolic steps depicted above may occur at any point from the insulin precursor to and including the hepatic cell. It is conceivable that such alterations, by inhibiting the inter-

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mediary metabolism of carbohydrates, may result in an accumulation of blood sugar, attendant glycosuria, and depletion of liver glycogen. Though it be extrapancreatic in origin, this state by definition is diabetes mellitus. Elaboration of these concepts constitutes the remainder of this discussion.

The Pancreas in Diabetes The exact role of the pancreas in human diabetes has not been completely elucidated. That pancreatic beta cell damage may be demonstrated in the majority of diabetics who come to autopsy is well established.[2] How frequently, however, these changes are the primary phenomena in the evolution of diabetes remains conjectural, although as will be elaborated, diabetes resulting from any extrapancreatic factor may eventually produce beta cell degeneration.

The beta cells of the islets of Langerhans are a morphologically distinct cell type which possess the ability (presumably unique) to elaborate insulin. Certain intracellular granules are thought to be the site of this synthesis. The total number of granules apparently parallels closely the insulin content of the pancreas.[3]

In a human or animal subject, with normal carbohydrate metabolism, the original beta cells or their identical offspring remain functional until the death of the organism. If, however, inhibition of the metabolic pathways such as have been depicted in Figure 1 occurs, pronounced changes in the pancreas may result. The sequence of events though not completely established may be somewhat as follows: As hyperglycemia and glycogen deficiency develop, the existing production of insulin becomes insufficient, and a demand is made upon the beta cells to increase their output of insulin. The situation at this point may be analogous to a myocardium which becoming ineffectual for the existing needs of the organism, hypertrophies in an attempt at compensation. If the efforts are in vain, the heart fails. Similarly if the beta cells are unable to correct the metabolic abnormality by overwork, hypertrophy and ultimately atrophy may ensue. Initially beta cell failure is characterized by a decrease in the number of granules, followed eventually by their complete disappearance. Next the beta cells themselves undergo hydropic degeneration, and finally in the end stage disappear.[3, 4] Through this proposed sequence of events which is supported by some experimental evidence, extrapancreatic diabetes of any form may become complicated by a permanent exhaustion of the insulin-producing capacity of the pancreas.

The Role of Sulfur in Diabetes Mellitus The importance of sulfur compounds in normal and disordered carbohydrate metabolism has received an increasing amount of attention in recent years.

Both the pancreas and insulin are rich in sulfur, much of which is in the form of sulfhydryl radicals. Certain of the key enzymes in carbohydrate metabolism owe their metabolic activity to a sulfhydryl radical,[5] and the inactivation of these groups by various diabetogenic substances is the proposed rationale for some forms of diabetes.

The sulfhydryl compounds of the pancreas are probably among the indispensable precursors of insulin. Among these compounds, the tripeptide glutathione has been perhaps the most widely discussed. This substance is found throughout the body and is abundant in pancreas, kidneys and liver. The glutathione contained in the pancreas is thought to affect the susceptibility of the beta cells to toxic substances and to degeneration,[4] and it has been suggested that as long as there is sufficient glutathione to protect the sulfhydryl enzymes and possibly to contribute to the formation of insulin, exhaustion will not occur. In human diabetes, the content of glutathione in the blood has been found to be decreased

although there appears to be no constant relationship between glutathione levels and blood sugar levels.[6] Lowering the glutathione levels in rats by feeding a cystine and methionine deficient diet has been shown to render the pancreas susceptible to the diabetogenic action of ordinarily non-toxic uric acid.[7] Administration of alloxan may be followed by a precipitous fall of glutathione as diabetes develops, while conversely administration of glutathione previous to, or concomitant with the alloxan prevents the appearance of diabetes.[8] Glutathione levels fall in diabetes secondary to ACTH administration, and in a study on a human volunteer, intravenous administration of glutathione produced a transient remission in an ACTH - induced diabetic state.[9] Lastly the administration of glutathione to a 95 per cent depancreatectomized animal will either prevent or delay the onset of diabetes.

There has been speculation that glutathione has a protective role in diabetes beyond that of an insulin precursor. It has been demonstrated that under certain conditions glutathione may reactivate inactivated sulfhydryl enzymes.[5] If certain diabetogenic agents induce diabetes by inactivating sulfhydryl enzymes, the possibility exists that administration of glutathione may reactivate these enzymes and allow resumption of normal carbohydrate metabolism. If this is so, the clinical applications may become significant. It is well established that the diabetic state may become aggravated following stress, whether the latter be from trauma, surgery, or infection. In certain of the foregoing states, an increased activity of the adrenal cortex can be demonstrated. Furthermore, administration of ACTH or cortisone in the presence of pre-existing diabetes may induce an exacerbation of the diabetic state.[10] It must therefore be determined: 1, if aggravation of diabetes in stressful states is due to interference with enzymatic activity, 2. if the latter occurs is it due to an increased titer of circulating steroids, and 3, if 1 and 2 obtain, will administration of glutathione ameliorate the steroid effect. Should these mechanisms be shown to exist, glutathione must be given clinical trial as a therapeutic adjunct in diabetic coma, diabetes in the face of infection, diabetes in the post-operative state, labile diabetes,

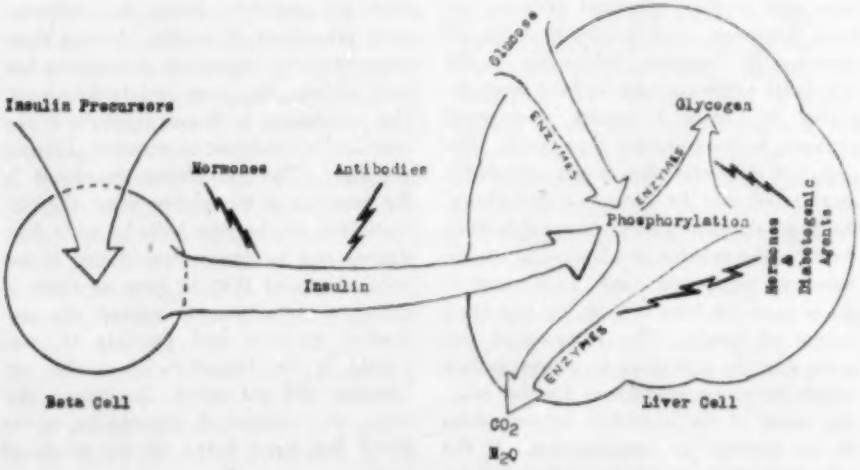

Figure 1

and certain cases of insulin-resistant diabetes.

Types of Diabetes

I. Primary Pancreatic Diabetes

The strong familial tendency of human diabetes (apparent in over 25% of cases) speaks for the existence of a primary hereditary defect in beta cell function. Nevertheless, it is not yet possible to attribute any specific percentage of the overall diabetic population to an inherited deficiency of insulin production.

Destruction of the beta cells due to a circulating agent produces what is in a sense a primary pancreatic diabetes. It has recently been shown that alloxan upon intravenous administration produces necrosis of the beta cells, apparently by combining with the active sulfhydryl groups of the cells.[11] The protective effect of glutathione has been mentioned above. The possibility of an alloxan-like substance occurring in humans has been suggested as a potential diabetogenic agent.[4]

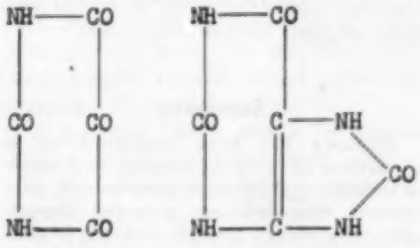

Figure 2

Figure 2 reveals the marked chemical similarities between alloxan and uric acid.

The substance dialuric acid, an intermediary between alloxan and uric acid, has been demonstrated in humans. This compound is formed *in vitro* from uric acid, and in turn is oxidized easily in the test tube to alloxan. It is of some interest therefore that Griffiths[7] has been able to produce temporary diabetes in glutathione deficient rats by the intraperitoneal administration of uric acid (1 gm/kg). Though the incidence of diabetes in diseases associated with hyperuricemia is thought to be increased, proof of conversion of uric acid to alloxan in the human is lacking.

More recently dehydroascorbic acid, a naturally occurring compound, has been shown to be diabetogenic in rats.[12] In the presence of glutathione, dehydroascorbic acid is readily converted to ascorbic acid, and indeed administration of glutathione prior to dehydroascorbic acid prevents injury to the beta cells.[12]

For the sake of completeness it should be added that diabetes seen in occasional cases of carcinoma of the pancreas, hemachromatosis involving the pancreas, and various other pancreatic maladies, should probably be placed in the primary pancreatic group.

II. Extrapancreatic Diabetes

A. *Hormonal Diabetes* Diabetes mellitus is frequently noted in association with over-activity of the anterior pituitary, the adrenal cortex, and the thyroid gland.

1. Anterior Pituitary. The amelioration of diabetes in depancreatectomized animals by removal of the anterior pituitary gland was the first indication of the relation of the pituitary to diabetes. Subsequent work has substantiated this relationship. Thus the incidence of diabetes in acromegaly is twenty times that of the population at large. Furthermore, the prolonged administration of ACTH may induce a diabetic state; and finally the administration of purified anterior pituitary "growth hormone" is diabetogenic in experimental animals. Young has attributed the large babies of diabetic mothers to an increased growth hormone titer crossing the placental barrier.[13] If so, the corollary exists that the maternal diabetes may

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be accompanied by overactivity of the anterior pituitary.

2. Adrenal Cortex. Clinically, the incidence of diabetes in Cushing's syndrome secondary to adrenal cortical adenoma is greater than that of the normal population. Experimentally, removal of the adrenal glands tends to ameliorate diabetes. Finally, administration of 11-oxysteroids may greatly intensify the diabetic state.[14]

The possible role of the adrenal cortex in intensification of diabetes in stress has been discussed above.

3. Thyroid Gland. The incidence of diabetes in hyperthyroid patients is about twice that of the normal population. Furthermore, the onset of hyperthyroidism in a mild diabetic may aggravate the diabetes, while thyroidectomy may have an ameliorative effect.

B. *Liver Cell Diabetes* Because the majority of the enzymatic processes in carbohydrate metabolism take place within the cells, destruction or injury to the cells performing a major portion of metabolic activity may produce diabetes. From a theoretical point of view, an inborn error in enzyme structure could result in impaired oxidation of glucose.

Experimentally, toxic hepatitis in animals may be followed by diabetes. Clinically, diabetes associated with liver disease may occasionally disappear when the liver status returns to normal.

C. *Excessive Glucose Administration* In normal animals, and especially in partially depancreatectomized animals, prolonged administration of glucose is followed by degranulation and hydropic degeneration of the beta cells.[15] This may represent another example of pancreatic deficiency developing secondary to long continued insulin demands.

It is interesting to note that starvation, which decreases the insulin demands, and produces a temporary atrophy of the beta cells, protects against the subsequent administration of massive doses of glucose, apparently by preventing the beta cells from accelerating their insulin output until exhaustion. The diabetic glucose tolerance curve seen in "starvation diabetes" is explained by the relative lack of insulin following starvation.

III. Alpha Cell Diabetes

It has long been realized that most commercial preparations of insulin produce an initial elevation of the blood sugar, though one Scandinavian preparation has been notably free of this. Repeated analysis of insulin preparations has revealed a contaminant which upon crystallization and injection produces a definite hyperglycemia. This same substance has been isolated from the pancreas after beta cell degeneration.[16] Its formation has been attributed to the alpha cells of the pancreas.

An alpha cell hormone provides a possible rationale for the observation that insulin requirements may decrease in alloxan diabetic dogs (and occasionally in human diabetes) following total pancreatectomy.

The role of the alpha cell hyperglycemic-glycogenolytic factor in human diabetes requires further clarification.

Summary

Diabetes has been portrayed as a syndrome of varying origins and characteristics, exhibiting hyperglycemia, glycosuria and deficient glycogen deposition. The theory that all diabetes is pancreatic in origin has been criticized and certain extrapancreatic factors have been explored for possible etiologic roles. Finally, diabetes both human and experimental has been classified and discussed.

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List Major Objectives for Mental Health Programs

A 13-point program on which individual state and county medical societies may base their mental health activities to further improve mental hygiene throughout the nation was outlined by Dr. Richard J. Plunkett, Chicago, secretary of the American Medical Association's Committee on Mental Health. The points are:

1. Study medical service plans to determine ways by which they may more effectively provide for treatment of mental and emotional illness.

2. Establish citizen groups for promotion of mental health education services.

3. Recommend to legislatures increased budgets for mental institutions.

4. Serve as a central office for dissemination of information on programs for mental health to the medical profession and public.

5. Expend efforts toward establishing psychiatric departments or services in general hospitals and increasing other psychiatric services in the community.

6. Recommend to legislative committees of state medical associations that changes or amendments be made in medical practice acts to include "mental illness" and "psychotherapy" as being within the legal definition and responsibility of the practice of medicine.

7. Improve facilities and level of professional care in state institutions for care of mentally ill.

8. Establish facilities for psychiatric consultation to courts and penal institutions.

9. Review and sponsor legislation for state mental health activities relating to problems of alcoholism and drug addiction.

10. Sponsor improved state laws for commitment to mental institutions, and provide for and encourage voluntary admissions to mental institutions.

11. Sponsor programs for postgraduate education of physicians in the utilization of psychiatric principles in the practice of medicine.

12. Sponsor programs in psychiatry and mental health in county society meetings during Mental Health Week in May.

13. Encourage the setting up of collaborating Committees on Mental Health in all county societies.

Dr. Plunkett pointed out that a survey of state medical societies has shown that many have already established committees on mental health or mental hygiene, and have active programs underway.

Myasthenia Gravis

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Myasthenia gravis is a relatively rare disease characterized by easy fatigability of the voluntary muscles. Heart and visceral muscle function is unaffected. Ocular muscles and those innervated by the bulb are usually first and most severely involved. A defect of myoneural transmission is a known etiological factor.

History

1. Willis in the seventeenth century described the syndrome later known as myasthenia gravis. (*De anima brutorum*, London, R. Davis, 1672, p. 288)

2. It required two more centuries for the disease to be fully recognized as a clinical entity by the medical profession through the work of Erb and Goldflam.

3. Jolly gave myasthenia gravis its name in 1895. Within five years many cases were reported on both sides of the Atlantic.

4. Otto Loewi in 1921 demonstrated chemical mediation of synaptic transmission for the vagus nerve.

5. Sir Henry Dale and co-workers demonstrated that Loewi's chemical mediator was acetylcholine. They also demonstrated the release of acetylcholine at voluntary motor nerve endings.

6. In 1934, Walker discovered the therapeutic effect of prostigmine (also called neostigmine).

7. The following year (1935) Viets and Schwab described a diagnostic test which in subsequent years became standardized. This test consisted of the administration of a single ampule of 1.5 mg. of neostigmine methylsulfate with 0.6 mg. of atropine sulfate (to prevent muscarinic effect on smooth muscles).

8. In 1941 Blalock began extirpation of the thymus gland as a therapeutic procedure.

9. The discovery in 1946 of the anticholinesterase propertise of a new group of insecticides, the alkyl phosphates, open a new chapter in the treatment of myasthenia gravis. This work is still in progress in many medical centers.

10. Also in 1946 Torda and Wolff discovered the beneficial effects of ACTH on myasthenia gravis.

Diagnosis

A. Diagnostic Criteria and Recommended Tests

1. Easy fatigability of the skeletal muscles is the most important characteristic of the disease. Muscle power tends to return after rest. Severe cases have persistent weakness.

Usually the function of heart and visceral muscles is unaffected but Weisman had a patient whose chief symptoms for many years was palpitation. Her condition was worsened by quinidine and dysphagia developed. Prostigmine eliminated the palpitation.

3. Ocular muscles and those innervated by the bulb are usually the first involved. Later limb and finally respiratory muscles

are affected. Respiratory failure or sudden spasm of the glottis is usually the cause of death.

The prostigmine test of Viets is one of the most important diagnostic tests. Many hundreds of diagnostic tests have now been done with the small ampule manufactured specifically for this purpose and containing 1.5 mg. neostigmine with 0.6 mg. atropine. In the myasthenia gravis patient, this results in rapid improvement in the curare-like symptims. The mere fact that a patient can take this amount of drug without smooth muscle symptoms such as pallor, diarrhea, rumbling, gaseous eructations, feeling of constriction of the chest, sweating or even general collapse, is suggestive of the diagnosis of myasthenia gravis. Amyotrophic lateral sclerosis, bulbar palsy, some muscular dystrophies and a few other similar diseases respond slightly to neostigmine. These responses are only 5-10% those of myasthenia gravis.

5. The Jolly test employs electrical stimulation. Faradic (high frequency) stimulation of a motor nerve of a myasthenic causes rapid fatigue while galvanic (single shock) stimulation can be continued indefinitely. Pritchard modified this test by stimulating the ulnar nerve and recording the electromyogram from the hypothenar eminence. Myasthenia patients show normal tetanus at low frequency (below 100 per second), and a twitch response at high frequency (above 100 per second). Normal patients have sustained tetanus at both frequencies. Grob and Harvey have consistently demonstrated a myoneural junction delay in myasthenia gravis electromyograms. A few patients with thyrotoxicosis will show electromyograms similar to those of myasthenia gravis patients.

6. Pyriform sinus studies are an important diagnostic aid in myasthenia gravis. The patient is given a barium swallow under fluoroscopy. The myasthenic with bulbar involvement retains barium in the pharynx and pyriform sinuses. After the injection of prostigmine, the myasthenic can swallow normally. All voluntary control is eliminated by this test and unmistakable evidence of myasthenia gravis is obtained if it is positive but not ruled out if negative. In cases of suspected bulbar palsy, a small amount of the barium should be used because no release of barium results from the injection of prostigmine. These patients may choke and may even stop breathing. Bulbar palsy patients have weakness and atrophy plus fibrillations of the posterior pharyngeal muscles which are not present in pseudobulbar palsy (also gives negative test).

B. Diagnostic Tests not Recommended Because of Potential Danger and Possible Resultant Fatality

Muscle relaxants such as curare or gallamine (flaxedil) used in anesthesia are also used in the diagnosis of myasthenia gravis.

1. Curare has no effect on acetylcholine production nor on activity of cholinesterase. It reduces the responsiveness of the motor end plate to nerve stimulation. Curare administration aggravates myasthenic symptoms. As the use of curare for preoperative medication increases, so do the number of deaths reported from its use because myasthenia gravis was not suspected. Beamish and McFarlane reported this year a case of a 57-year-old Chinese man who almost expired when curare was given during anesthesia. He was given artificial respiration for respiratory muscle paralysis and recovered. During an attack of pneumonia eight months later, neostigmine was found to aid respiration. On recovery, he was given the curare test followed by neostigmine with positive response.

2. Gallamine (flaxedil) was suggested as a diagnostic agent for myasthenia gravis by Dundee. This drug is also used as a muscle relaxant in anaesthesia and may cause prolonged intercostal muscle paralysis. It is even more dangerous for myasthenics than curare.

3. Quinidine and quinine are hazardous drugs used for myasthenia diagnosis. Quinine has a curariform action but is also capable of lowering the cholinesterase. Neostigmine is an anticurare and anticholinesterase drug. Thus the anticurare and anticholinesterase propertise of a drug are not necessarily parallel functions.

4. Intravenous neostigmine has been advocated as a rapid test for myasthenia. The response occurred within a minute or two. Tether gave 0.5 mg. i.v. and reported no serious reactions. Only one death has been reported from the use of neostigmine for diagnosis. Merrill had a death in a thirty-nine year old man after i.v. injection of 1.0 mg. Within five minutes a generalized convulsion occurred. Autopsy disclosed death from shock for no apparent reason.

Etiology

A. Disturbance of Acetylcholine-Cholinesterase Mechanism

1. Current theory of myoneural junction transmission proposes the explosive synthesis of acetylcholine at the junction or in immediate proximity to the muscle fiber. This either results in muscle contraction or else conditions the muscle fiber so that it responds to the electrical stimulus. Cholinesterase, an enzyme present both in muscle and circulating blood, causes a rapid breakdown of excess acetylcholine, thus preventing its spread to the adjacent muscle fibers and to the general circulation. Acetylcholine is produced only at the local point and its effect is limited to that point. Prostigmine is a cholinesterase inhibitor, thus allowing a greater concentration of acetylcholine to build up. Potassium in addition to being an anticholinesterase, also seems to take part in acetylcholine synthesis. The anticholinesterase drugs potentiate and prolong the muscular stimulation by acetylcholine.

2. It has long been known that the defect in myasthenia gravis patients is a block to transmission of motor nerve impulses across the myoneural junction. Several possibilities exist as follows.

a. It was first thought that a myasthenic patient might have too high a circulating level of blood cholinesterase causing too rapid a destruction of acetycholine. Clinically this seems unlikely since the many visceral and automatic functions which depend upon cholinergic transmission are unaffected in a myasthenic. Stedman and Russel, McGeorge, Milhorat, and Russel, Odom and McEachern have all made direct measurements of blood cholinesterase and proved that it was not elevated in myasthenia gravis. Jones and Stadie and Goodman, Carlson and Gilman have made direct measurements of cholinesterase at myoneural junctions. They found no abnormality.

b. The theory has been advanced that a curare-like substance is released in this disease. No such substance has ever been demonstrated. Lanari found that myasthenic muscles were unusually sensitive to acetylcholine when injected intra-arterially. A partially curarized muscle is less sensitive to acetylcholine.

c. It is possible that a derangement in acetylcholine synthesis at the myoneural junction is the true defect in myasthenia gravis. Torda and Wolff gave ACTH to a group of myasthenics with reported improvement. They did electromyograms, and determined acetycholine synthesis on their patients before and after ACTH. They concluded that ACTH had a specific effect on the mechanisms responsible for the disease. Cortisone had no effect. They believed ACTH restored the function of motor end plate by increasing the synthesis of acetylcholine. Choline is acetylated with the help of choline acetylase to acetylcholine. Torda and Wolff believed that ACTH was not fixed directly on choline acetylase but rather increased the intracellular concentration of substances that augment activity of choline acetylase.

B. The Thymus Gland and Myasthenia Gravis

1. Attempts to demonstrate endocrine function of the thymus.

a. Gudernatsch showed increased growth of rats and tadpoles due to feeding thymus. This does not necessarily indicate endocrine function in the human subject.

b. Many other reports have appeared in the literature claiming growth or other hormone activity for the thymus gland but none of these have been positively confirmed.

2. Hypertrophy and involution of the thymus occurs because of changes in the other endocrine glands. There is general agreement in the literature by many observers that the thymus becomes hypertrophied in hyperthyroidism, adrenal cortical hypofunction and gonadal hypofunction; hypothyroidism, adrenal cortex and gonadal hyperfunction cause involution of the thymus. Noble and Collip demonstrated that saline suspensions of whole pituitary plus adreno-corticotropic extract produced hypertrophy of the atrophied thymus in hypophysectomized rats. The effects of hypophyseal gonadotropic hormone and ACTH on the thymus are mediated through the gonads and adrenal cortex and do not occur if these organs have been removed.

3. It has been postulated that if the thymus plays a part in myasthenia gravis, this gland must produce a curare-like substance (which acts as a brake on muscular activity during normal fetal life). There is little proof to back up this theory.

4. The only real evidence that the thymus plays a role in myasthenia gravis is the operative results from thymectomies which show:

a. Thymomas are present in 15% in recent series published by several observers.

b. Keynes reported a 65% complete or nearly complete remission in 155 thymectomies, Viets 45% with 36 thymectomies and Eaton 60% with 46 thymectomies.

Miscellaneous Topics

A. Relationship of Myasthenia Gravis and Myotonia Congenita

1. Kennedy and Wolf suggested that these two diseases are clinical opposites because myasthenia is characterized by undue muscular fatigability and myotonia by too prolonged contractions, and also because of opposite responses to drugs as follows:

Anticholinesterase drugs, e.g. prostigmine
Improves myasthenia; makes myotonia worse.

Curariform drugs, e.g. quinine
Makes myasthenia worse; improves myotonia.

2. If this relationship were valid, prostigmine in large doses would be expected to produce myotonia in the normal subject. Instead it producse muscular fasiculations and cramps. Larger doses produce interference with normal muscular contractions but no failure of normal relaxation as seen in myotonia. Kennedy and Wolf withdrew 500 cc. of blood from a patient with myotonia congenita and gave it to a patient with myasthenia gravis. No effect was noted and there seemed to be no relationship between the two diseases serologically.

B. Myasthenia Gravis in Children

1. Congenital myasthenia

Several cases of myasthenia in siblings have been reported.

2. Transitory myasthenia of the neonatal period.

Geddes and Kidd found that a newborn child of a myasthenic mother had severe myasthenic symptoms. The child made a complete recovery after treatment with neostigmine for five weeks. The mother died of respiratory failure three weeks

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postpartum. She had had a thymectomy and had severe symptoms of myasthenia during pregnancy. To date a total of 11 cases of children with myasthenia born to myasthenic mothers have appeared in the literature. Most of these children recovered. The transitory myasthenia of the new born has an excellent prognosis and should be clearly differentiated from the congenital type.

3. Fulmating myasthenia gravis in children.

Bastedo reported a case of a 10-year-old child who in less than a day developed symptoms similar to acuate bulbar poliomyelitis with dysphagia, dyspnea, cyanosis and collapse. The child responded immediately and completely to 0.5 mg. of prostigmine given subcutaneously. Bastedo reported 44 cases of myasthenia gravis in children had been found in the literature. Three of these had an acute onset. He advocated a neostigmine test in all acute respiratory disturbances in which the etiology was not fully established.

C. Diseases Associated with Myasthenia Gravis

1. Myasthenic symptoms are commonly found in hyperthyroidism. They disappear with the proper treatment for hyperthyroidism.

2. Other diseases with which myasthenia has been reported as associated are diabetis mellitus, mental disease, epilepsy and alcoholism, following diphtheria after injection of anti-tetanus serum and following infection as indicated by lymphocytosis.

3. It has been reported that myasthenia and hyperthyroidism rarely exist simultaneously in a patient. Other reports take an opposite viewpoint.

Treatment

A. Prostigmine is the Standard Therapeutic Agent in Myasthenia Gravis.

1. Prostigmine is given on the assumption that the health of the myasthenic patient depends on an adequate amount of prostigmine being administered to inhibit cholinesterase at all times. The amount of muscular work that a patient does within 24 hours modifies the requirement and variations are considerable. Some patients take as little as 15 mgs. divided into two doses daily. General weakness or specific eye or bulbar symptoms require larger dosage. In Viets Clinic the average intake was 10.9 tablets (15 mg. each o.d., a total of 163.5 mg.). The highest dosage was 25 tablets a day for a patient who had been maintained on this intake for years.

2. Prostigmine must be spaced correctly during a 24 hour period. Information as to the patient's hourly need can best be obtained from the patient. A chart was developed by Schwab and Skogland on which the patient recorded his state of health four times a day. After two or three weeks of observation the physician was able to space the drug to suit the patient's need.

3. Seriously ill patients are given prostigmine by subcutaneous or intramuscular injection. Patients can be trained to do this in a manner similar to diabetics. Because of the possibility of the rapid onset of an emergency in any myasthenic no matter how mild, some clinics give all myasthenics instruction for injection of prostigmine. Patients keep a small supply available at all times.

4. Some patients who are well maintained on prostigmine by mouth, need the rapid effect of an injection in order to swallow an adequate meal. An injection one half hour before a meal enables these patients to eat normally and maintain their weight.

5. A few seriously ill patients require prostigmine entirely by parenteral methods. Parenteral doses are thirty times as effective as oral. As much as 31 mgs. in the course of 24 hours and divided into hourly doses may be given. Ordinarily 0.5 mgs. parenteral dose equals 15 mg. oral.

B. Potassium given as the chloride or

citrate has a mild effect on myasthenic symptoms in a small percentage of patients. The chloride has a disagreeable taste but the citrate is palatable in orange juice.

C. Ephedrine sulfate has been used for many years as a useful adjunct to prostigmine. It is about 10 to 15% as effective as prostigmine. A few mild patients may be maintained entirely upon ephedrine. Ephedrine sulfate is usually added in doses of 24 mg. B.I.D. or T.I.D. to the regular prostigmine schedule.

D. Guanidine hydrochloride has completely relieved a few myasthenic patients of their symptoms. A patient of the Massachusetts General Hospital myasthenia gravis clinic took 9 tablets of 125 mg. o.d. for many years with complete relief. This drug causes annoying paresthesias.

E. The Alkyl phosphate DFP (di-isopropylfluorophosphonate) is an effective anticholinesterase but thoroughly unreliable in myasthenia gravis.

F. TEPP (tetraethyl pyrophosphate) was used by Grob and Harvey on 12 patients. Nine were studied for a period of from 1 to 8 months. All had better strength and stamina than during the use of prostigmine. Because of side effects and unreliability most of the patients returned to prostigmine.

G. OMPA (octamethyl pyrophosphoramide) was found to be stable and relatively non toxic by Rider et al. Only two oral doses a day were required and it could replace prostigmine in some cases. The action was smooth and sustained. Of six clinical trials, 4 were successful. When the patients were maintained on OMPA alone side effects were negligible and easily controlled by atropine. Toxic side effects usually occurred most frequently during the period of transition from prostigmine to OMPA. They found serum and red cell cholinesterase tests useful in controlling dosage.

H. Treatment of Myasthenic Crisis

1. Korey and Randt treated three patients in myasthenic crisis and had one death. They believed that those patients who did not improve on injection of 1 to 2 mg. of prostigmine i.m. q hr. for three to five doses would not benefit from further prostigmine and should be maintained in a respirator without medication. A minimal response to prostigmine may cause out-of-phase respiration in the respirator and the drug enhances bronchial secretions. A tracheotomy may also be done.

I. Experimental therapy on myasthenic patients.

1. Two cases have been reported in which the oxytocic principle of the posterior pituitary was used with recovery (Pitocin).

2. Several cases have appeared in which it was reported that carotid sinus removal or procaine injection of the sinus caused improvement.

Prognosis

One of the best sources of prognostic data in many diseases is insurance statistics. Weisman, writing in the Journal of Insurance Medicine, found that myasthenia and diabetes were very similar for insurance purposes. With proper therapy, both respond and the life expectancy in the two diseases is about the same.

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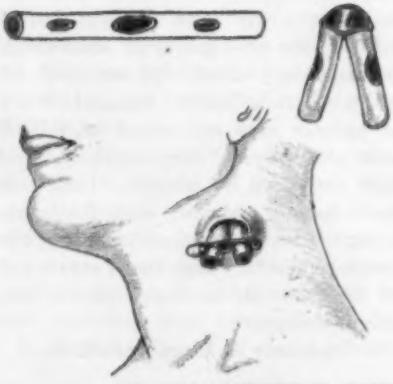
Clini-Clipping

The method of draining of a lymph gland abscess on the neck.

a. The abscess wall is punctured with a closed hemostat.

b. The blades of the hemostat are spread apart to open the abscess cavity.

c. Method of shaping and inserting a double-barreled rubber tube.



A New Wet Dressing In Dermatology

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In these days of antibiotic, hormonal and enzymatic forms of treatment which frequently are very specific, rapid and dramatic in their effect, one must still not forget the other proven and equally important forms of therapy. Dermatologists in particular have need for a plenary armamentarium, and one of the most valuable of these modalities is the soak or wet dressing. These moist applications are utilized by the experienced dermatologist with a specific response in mind: viz., for astringency, cooling or heating, vehicles for other medicines, oxidation or reduction, detergency or cleansing, colloidal, enzymatic, anti-bacterial or anti-fungal, re-establishment of proper pH, deodorizing or even for intentional maceration. Representative of the older types of wet dressings are Burow's solution or Alibour water, potassium permanganate, Vleminckx's solution, saline, oatmeal or starch, boric acid, resorcin and silver nitrate. More recently, solutions of such agents as streptomycin or bacitracin, streptokinase and streptodornase have become available for wet dressing therapy. Often when wet dressings seemed advisable as either an adjuvant or as the only indicated form of topical application, skillful combinations were also made with specific purposes in mind such as Thiersch's solution or Alibour water.

A new combination of more recently studied agents has been used in wet dressings in a considerable number of conditions[1] and appears to us to have earned a place among the other established and previously mentioned variants of hydrotherapeutic applications.

This combination of sodium propionate and the water-soluble derivatives of chlorophyll to form a wet dressing combines the beneficial effect of two valuable medicaments and in practice has shown the advantages one might ascribe to such a combination on a theoretical basis alone. The expected stability, lowness of allergenicity and the anticipated cleansing, deodorizing, anti-inflammatory, anti-fungal and anti-bacterial effectiveness have been amply demonstrated.[1] The fatty acids, and especially the propionates, have at times not been utilized because of the associated bad odor, but in this wet dressing the beneficial effects of the propionates have been preserved and the odor neutralized by adding a small amount of chlorophyll.

When in vitro studies were made,[1] it was found that while the chlorophyllin was an effective deodorant for the propionate, it also augmented the therapeutic effectiveness of the sodium propionate.

The material used in these clinical studies was a prepared powdered combination of 99.6% sodium propionate and

From the Department of Dermatology, Newark Board of Health Clinics, Newark, New Jersey.
Prophyllin supplied through the courtesy of Ryston Company, Inc.

0.25% sodium copper chlorophyllin by weight. To facilitate its proper dilution, the powder was packaged in envelopes to contain measured amounts—2.3 gms. per envelope—which when diluted in 8 ounces of water (approximately a glass) would yield 1% sodium propionate and 0.0025% of the chlorophyllin with a pH of approximately 8.0. The pH and concentration of the solution remain stable as compared to other wet dressings of popular usage. Using this dilution as a starting point, weaker concentrations could be prepared for the more delicate areas and for the more severely inflamed situations or for wetting larger areas while stronger concentrations could be prepared for subacute or lesser inflammations or for smaller areas. The solubilities of the components made for easy preparation of the solutions.

The wet dressings or soaks were applied in the same manner and frequency as is customary for similar applications of other medicaments.

The conditions in which this combination of sodium propionate and chlorophyllin were used and the results together with the other pertinent data are best recorded in tabular form on the following page.

Discussion

1. Acute Dermatitis Venenata Among 31 cases of acute dermatitis venenata with redness, oozing, crusting and swelling in various degrees, marked improvement characterized by drying and a return almost to normal of other symptoms was obtained in 19. Pruritus cleared or decreased. An additional group of 7 patients improved moderately. The unimproved cases showed no established subsidence of the inflammation in an average of four days so other therapy was substituted.

Experience with these patients indicated that it is advisable to vary the dilution of the propionate-chlorophyllin mixture in accordance with the severity of the inflammation. The concentration of one envelope per pint proved to be preferable in most of these patients, a stronger concentration often evoking a stinging sensation. Five patients required a dilution of one envelope per quart and three could not tolerate even this low dilution. One of these three seemed to be aggravated by the treatment but patch tests were negative for the propionate and for chlorophyllin.

2. Dermatophytosis Only the 18 patients with positive cultures (all *T. mentagraphytes*) and showing acute manifestations were included in these statistics. Complicating factors were the usual hyperhidrosis and interdigital fissuring and desquamation. Most patients tolerated the concentration of one envelope per glass at the beginning of therapy and all tolerated it after the second day. The characteristics of the varying degrees of charted improvement or failure are as stated in the discussion on dermatitis venenata. Pruritus generally decreased with the improvement.

3. Bromidrosis In a concentration of one envelope per glass, two cases showed considerable diminution of the unpleasant odor even if the wet dressings were discontinued for three to four day intervals after using them consecutively two times a day for at least one week. One case maintained his improvement without soaks for about two days while six cases got benefit only if continuing the soaks twice daily as was the prescribed course of therapy for all these cases.

4. Hyperhidrosis With no change in the type of footwear or usual foot care, one patient showed a good decrease in his pedal sweating for three day intervals (during January and February) without the soaks; one patient could skip every third or fourth day, but four patients showed no change except that their "feet felt cleaner."

5. Perineal Eczemas This category included all the acute inflammatory eczematous conditions of this area since in this phase they are almost always treated

TABLE 1

Condition	Total Cases	Dilution	Improved		Unimproved	Discontinued other than for Failure
			Markedly	Moderately		
Acute Dermatitis Venenata	31	1-pint 1-quart	19	7	2	2—smarted even in weakest dilutions used 1—definitely aggravated
Dermatophytosis	18	1-glass 1-pint	9	5	4	
Bromidrosis	9	1-glass	2	1	6	
Hyperhidrosis	6	1-glass	1	1	4	
Perineal Eczemas	11	1-pint 1-quart	5	2	2	1—aggravated 1—smarted too much even in weaker dilution
As Douche in Vaginal Discharges	Monilial: 5 Trichomonas: 3	1-glass 1-pint	5 2	— —	— 1	
Intertrigenous Eczemas	3	1-pint 1-quart	1	1	—	1—smarted even in weaker dilution
Seborrheic Dermatitis	7	1-glass 1-pint	5	1	1	
Atopic Dermatitis	9	1-pint 1-quart	4	3	—	2—smarted even in weaker dilution
Neurodermatitis Circumscripta	4	1-pint	2	2	—	
Nummular Eczema	3	1-glass 1-pint	—	2	1	
X-ray Dermatitis	2	1-pint	1	—	—	1—smarted in weaker dilution
Burns (Scalds)	2	1-pint 1-quart	2	—	—	
Diaper Eczemas	6	1-pint	3	1	1	1—apparently annoyed infant even in weaker dilution
Varicose Eczemas	5	1-pint 1-quart	2	1	1	1—smarted too much even though clinically improved

TABLE I—continued

Condition	Total Cases	Dilution	Improved		Unimproved	Discontinued other than for Failure
			Markedly	Moderately		
Irritated Dermatitis	Superimposed on Psoriasis: 3	1-pint	3	—	—	
	Lichen Planus: 1		1	—	—	
Infected Conditions	11	1-pint	7	1	3	
Post CO_2 therapy Dermatitis	6	1-pint 1-quart	4	1	1	
Oral Conditions:						
Herpes Simplex	3	1-glass	—	1	2	
	1	1-pint				
Vincent's	2	1-glass	1	—	—	
Apthous	3	1-glass	1	—	1	
Other Irritations		1-glass 1-pint	2	1	—	

initially by watery applications, regardless of underlying primary etiology. Of the eleven patients in this category, five improved very quickly, two improved slowly and two did not change appreciably. Two patients could not tolerate the solution in the weak dilution of one envelope per quart, one actually being objectively worse. He reacted negatively to patch tests. Pruritus in the improved cases generally subsided promptly in proportion to the improvement.

6. Used as a Douche There was no difficulty in tolerating one envelope per pint, and all tolerated one per glass after the first day. Both the monilial and trichomonas etiologies were established by laboratory means. Results were excellent, and after maintaining the douche regimen twice daily for two weeks, only one case of the eight who returned for follow-up observations at the end of two additional weeks of no therapy (and, therefore, are the only ones included here) showed a relapse—one case of trichomonas. All patients had shown little or no benefit from other prior therapy.

7. Intertrigenous Eczemas (Non-Specific) One case of inframammary and two cases of male inguinocrural, intertrigenous eczemas with acute symptoms in all three of erythema, oozing and crusting, were treated with the chlorophyllin-propionate solution. It was very comforting and almost curative in one male case and definitely alleviating in the other male case in dilutions of one envelope per pint after five days in the first and seven days in the second case. Pruritus was relieved simultaneously with the improvement in these cases. The case of inframammary, intertrigenous eczema was not benefited by the propionate-chlorophyllin dressings and other therapy was substituted.

8. Seborrheic Dermatitis Of the seven cases in this group, three were in the post-auricular areas, three in the perianal areas and one in the infra- and intermammary regions. All were associated with redness and some oozing and crusting. Generally, the wet dressings were of the one envelope per pint dilution for the first two days and subsequently all tolerated the one envelope per glass concentra-

tion well. Five of these patients did very well in an average of eight days using the wet dressings three times a day. One patient looked better but failed to improve further after five days and another patient showed no appreciable change. Again, the pruritus subsided along with those cases of improving dermatitis.

9. Atopic Dermatitis All nine patients, six of whom were infants under two years of age, while the others were nine, eleven and nineteen years of age, showed typical acute atopic dermatitis with oozing and crusting of the involved areas, all of which were well excoriated. Four of the patients showed very good improvement at the end of an average of five days and three other patients did moderately well by the end of a similar period. Pruritus did not seem to subside as promptly as did the clinical improvement, but this was determined primarily by observation since many of the patients were infants. The dilution of one envelope per quart was not tolerated by the eleven-year-old patient and oatmeal-extract wet dressings were substituted as the only topical medication which she could tolerate. One of the infants showed increased irritability during wet dressing applications with weak dilutions and other therapy was substituted.

10. Circumscribed Neurodermatitis (Vidal) All four cases showed improvement of the acute manifestations tolerating the one envelope per pint concentration well. They stated that pruritus was lessened but still annoying when the change from wet dressings to more active therapy was made at the end of an average period of six days.

11. Nummular Eczema In two patients at the end of one week there was lessening of the redness, definite flattening of the lesions and a decrease in the pruritus. Subsequently no further benefit was obtained from another week of these wet dressings at which time they were replaced by other therapy. One case continued "full-blown" throughout five days of wet dressings. None complained about either dilution although we began with the weaker strength for one day and then used a dilution of one envelope per glass three times a day thereafter.

12. X-ray Dermatitis Of two patients who had received large doses of x-ray for cutaneous epitheliomata and who developed erythema, oozing and swelling, one could not tolerate any type of watery solution and was relieved only by sedation and by an *Aloe vera* jelly preparation. The other patient obtained prompt relief with the one envelope per pint concentration and maintained this relief requiring no further therapy at the end of ten days.

13. Burns, Scalds Two patients simultaneously scalded by hot coffee giving moderate second degree burns on the thighs of one and on the arm of the other obtained prompt relief with the one-to-a-quart concentration continuously as a wet dressing for 24 hours and subsequently with the one-to-a-pint concentration intermittently applied wet dressings for the remainder of a week. Healing was essentially complete at that time.

14. Diaper Eczemas Of six severely excoriated and macerated diaper eruptions with all the eczematous characteristics, three made very prompt improvements using the solution as wet dressings after each diaper change and as a regular cleansing agent with cotton. One patient improved moderately well but after one week seemed to indicate more active therapy. One infant showed no change in four days while one infant cried bitterly with *any* watery application but did well with plain Lassar's Paste.

15. Varicose Eczemas Of five patients with varying degrees of hypostatic involvement including eczematization in all, two cases showed good improvement when the chlorophyllin-propionate mixture was substituted for the other wet dressings which were being used without benefit. The strength of one envelope per quart at the

incipiency was increased to one per pint without complaints after two days. In one patient the superficial ulcerations present for about one month became clean-looking and began to granulate. One patient showed some improvement, but it was not satisfactory at the end of two weeks when other therapy was substituted with a little better results. One patient showed no results with this therapy or with any other therapy. Saphenous ligations, however, done during the subacute stage because of his recalcitrance, did bring on recovery. The fifth patient, a chronic sufferer over many years who had failed to respond to the other forms of surgical and non-surgical therapy, had to discontinue the soaks even at a one envelope per pint dilution because of annoying stinging which developed after each soak was discontinued and persisted for one to two hours. However, he did get good clinical improvement. Subsequent experience with the ointment form of this propionate-chlorophyllin preparation indicated that application of this mild ointment between soaks might have alleviated the persistent stinging in this case.

16. Irritated Conditions Three cases of psoriasis and one case of chronic lichen planus irritated by prior ointment therapy subsided promptly with five to seven days of wet dressings three times a day using the one to a pint dilution.

17. Infected Conditions Of the eleven cases, three were of the echthyma type—deep pyodermata of the legs—two were impetigo contagiosa and three were paronychia. There were also one infected knife wound, one infected contusion and abrasion of the skin and one infected insect bite. All showed the clinical features of a staphylococcal infection. Wet dressings using the one to a pint concentration produced no improvement in two cases of the paronychial infections and in one case of ecthyma. In the infected contusion and abrasion there was moderate improvement progressively during the five-day trial, while all the other cases showed good improvement in an average of five to seven days of twice and thrice daily soaks. While one would hardly substitute these wet dressings alone for the other active antibacterial therapy which is usually used, nevertheless, we did get the impression that there was a somewhat more rapid cleaning than would have been the case with other wet dressings. The purulent discharge did not give the protracted drainage as is customary for example with boric acid compresses. Accumulating discharges often give off odors, but in these cases there were neither purulent collections nor malodors.

18. Post CO_2 Therapy Dermatitis In the use of solid CO_2, we generally desire an inflammatory reaction. However, this reaction often is excessive and in six such cases propionate-chlorophyllin wet dressings beginning in the one to a quart strength and increasing generally to the one to a pint concentration brought about surprisingly rapid amelioration of the discomfort with prompt quieting of the inflammatory process in four cases in an average of three days with three-times-a-day soaks. One case did improve but only moderately in four days at which time the continued although milder pain and stinging called for a change to an oatmeal-extract colloidal soak. One case showed no improvement.

19. Oral Conditions Generally, the solution was used in a one envelope to a glass dilution. It was a little more comfortable for one case of herpes simplex and one case of chronic mouth biting with buccal erosions to begin for one day with one to a pint. The routine was post-cibal rinsing with a glass of the lukewarm solution. Pre-retirement rinsing was also advised and as often in addition as the patient wished. It appeared that the solution generally relieved the oral discomfort during and for a short time after the soaks. The sites of pathology appeared "cleaner," not collecting the pseudomembranous cov-

erings often seen in similar oral conditions, and in four of the nine oral cases there was indication of an acceleration of healing.

Summary

As the preceding table and discussion show, the sodium propionate-chlorophyllin combination performed well in our hands in that moderate to marked alleviation of the inflammatory reactions and of the associated pruritus occurred with good regularity (113 cases of 154 total giving an improving percentage of 73.4%) and thus prepared the skin for more active therapy. As will be noted, the more actively inflamed the condition to be treated, the weaker the dilution was made. The dilution is expressed in the amount of water added to each packet of 2.3 gms. of mixture. The temperature of the solution when used was usually room temperature or slightly cooler. The reason for discontinuing this wet application in the few cases when it was necessary to do so was generally because of a stinging sensation, usually 15 to 30 minutes after the solution was removed from contact with the skin. In only ten of the 139 cases was there actually objective evidence indicating withdrawal of this medicament. (The discontinued case of varicose eczema was objectively better but complained of stinging.) Patch tests were permitted by two of this latter group of ten but both the propionate and the chlorophyllin gave negative reactions.

Unquestionably, we used the mixture in weak dilutions, but we feel that the primary function of wet dressings in these conditions was to prepare the skin for more active therapy, and it was these weak dilutions which we found best suited for the purpose.

The sodium propionate-chlorophyllin solution is suggested as an additional therapeutic agent available advantageously in acute inflammatory, traumatized or infected conditions prior to or concomitant with more active topical therapy. Its apparent lack of toxicity and low index of allergenicity, its stability, antipruritic, bacteriostatic and fungistatic properties together with its ameliorating effect as desired from a wet application place it high among the useful wet applications.

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Plane and William Streets
(City of Newark, N.J., Department of Health)

Vaginectomy

With Perineal Cervicopexy and Perineorrhaphy For the Cure of Procidentia Uteri—3rd Degree

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The following case came under my observation four years ago. She was a 71-year-old widow with a severe prolapse of the cervix uteri and a large cystocele and rectocele. She was desperate, depressed and hopeless as far as her ailment was concerned. life had become a burden to her for some 15 or 16 years, as several gynecological surgeons had recommended that she reconcile herself to her prolapse and cystocele, as surgery would be of no avail, and in fact, contraindicated in her case. To prove this conservative and supportive treatment, she brought in to me a conglomeration of pessaries of various types and sizes, hard rubber, soft rubber, and balloon. Some were self-retaining and others were to be supported by straps, belts, stems, etc. Some relief had been obtained earlier (several years ago, postoperatively) when cystocele and prolapse had first developed, but in the last six months or so she had discontinued these devices altogether, because of loss of all support. Lately she has had to manually replace the cystocele and prolapsed cervix before she could void. There was retention dysuria, burning and even strangury at times. There was also some bleeding from the exposed cervix. Constipation was also present. There was a constant bearing-down feeling in the lower pelvic region upon standing or walking. She found it necessary to stay in bed most of the time. A sedentary form of life was thus forced upon her and had brought about a gain of some 25 lbs. Thus she gradually became sluggish, both physically and mentally, almost to the point of degeneration. She would rather die than live in such distress—a hopeless, meaningless, burdensome life.

Past History Patient was a Para II O II. Forceps were used during both deliveries and both were prolonged. As to exact procedures during the two deliveries, no further information could be obtained. Her menstual history was normal as far as could be determined. Some 30 years ago a ventral fixation of the fundus uteri was performed for retroversion and retroflexion. Shortly after this operation some signs of prolapse began to appear gradually, so that within 5 years a supravaginal hysterectomy had to be performed, and at the same time a routine appendectomy was also performed. Some fifty years ago a right inguinal herniotomy was performed with good results. There was no serious medical illness history.

Physical Examination Examination reveals a 75-year-old white female, a widow. She is cooperative and oriented but mentally she is quite depressed and worried about her condition.

Head, eyes, ears, nose, throat and chest were essentially negative.

Heart: B.P. 118/70. There was a slight suspicion of systolic murmur over the apex and tricuspid area but not transmitted.

P.M.I. in 6th intercostal space about 12 cm. to left. Cardiac sounds were of good quality and with no irregularity.

Abdomen: obese and flabby. Liver, spleen or kidneys were not palpable. A well-healed right inguinal herniotomy scar was present. A midline suprapubic scar was also present. Neither one showed any signs of ventral or postoperative hernia.

Extremities: Examination revealed multiple osteo-arthritis of both hands and wrists as well as Dupuytren's contractures of several fingers of both hands.

Pelvic Examination: cervix extended about 6 or 7 inches outside the vaginal orifice with an accompanying large cystocele and rectocele. Cervix was eroded about 1 cm. about the external os and bled readily to touch during the examination. Fundus was absent above the supravaginal portion. External urinary meatus looked normal in size but appeared congested and eroded to some extent. Upon straining and coughing these herniated structures extended at least another inch. The entire vulvar and vaginal mucosa had typical senile, atrophic characteristics.

Rectal examination was essentially normal except for 3 small skin tabs. Sphincter control was rather relaxed.

Clinical Laboratory Report RBC 4,690,000; WBC 5600; Hbg. 94%; polys. 52, lymphs. 30, mono. 10; eosin. 8, stabs. 4, segmented 48.

Urinalysis: essentially normal except for occasional WBC and few epithelial cells.

Biopsy of cervix: negative for carcinoma. Keratinization of epithelium was definitely present (erosion).

The patient was admitted to Victoria Hospital, Miami, Florida on May 6, 1951 to undergo surgery. Surgery was performed on May 7, 1951.

Operative Report The cervix was retracted and a longitudinal incision was made through the mucosa of the anterior vaginal wall up to the cervix. The mucosa was then carefully separated from the bladder and the lateral walls of the vagina. The incision was then carried around the cervix, thus freeing the anterior vagina from the cervix. An incision was then made through the posterior vaginal wall as for rectocele and perineorrhaphy. This was then carried upwards to the cervix and dissected away from the cervix, as well as the rectum. Dissection was then carried on in all directions, freeing the entire vagina from the surrounding structures. The cervix was then amputated (high) and this along with the entire vaginal tract was removed. Cauterization of the upper portion of the cervix was then performed to destroy the remaining mucous membrane. The rectocele was repaired by means of approximation of the rectovaginal fascia. The vesicovaginal fascia was so atrophic that repair for cystocele was impossible. As this patient had had a supravaginal hysterectomy previously, only the lower portion of the cervix along with the insertion of the broad ligaments on either side remained, since the lower portion of the cervix was removed when vaginectomy was performed as above indicated. The cervical insertions of broad ligaments were grasped and sutured with cotton interrupted sutures to the inferior ramus of the os pubis on either side, thus making a hammock to support the urethra as well as the bladder neck. Special attention was paid to avoid the ureters as they entered the bladder.

The next step was to free both levator ani muscles from the lower end of the rectum. A special type of perineorrhaphy was done by suturing the levator ani muscles to the inferior border of the broad ligaments, the supravaginal portion of the amputated cervical stump in the midline as well as to the inferior ramus of the pubis on either side with interrupted cotton sutures. The two levator ani muscles were then sutured to each other with interrupted cotton, in the midline to form a new pelvic support and prevent herniation of pelvic structures, especially the bladder. A small Penrose drain was left at the

lower end of the cervical stump and the mucosa of the vaginal outlet and perineum was then approximated in the midline with interrupted chromic #0, so as to cover the entire operative area. (The cervical stump, the broad ligaments and the levator ani muscles which were all sutured to the inferior rami of the os pubis forming a new perineal floor.) A #20 Foley catheter was inserted into the bladder and the operation was thus completed.

The patient made an uneventful postoperative recovery and on May 14, 1951 was discharged from the hospital. The Penrose drain was removed on the fourth day and the Foley catheter was removed on the fifth postoperative day.

Periodic check-up of the patient has revealed no recurrence of the procidentia. The urethra, bladder and rectum are well supported. Coughing or straining has not revealed even the slightest sign of vulvar or perineal relaxation. The patient's general health as well as her attitude toward life has greatly improved. Within three months after the operation, once again she was able to do some of her housework, as well as some of her gardening and flower bed chores. Nocturia has greatly diminished to an average of once a night. The urinalysis has been essentially negative except for a few WBC and epithelial cells per high power field. Once again she has succeeded in taking her place in the family as a useful member.

Summary

A severe case of prolapsus uteri with a large cystocele and rectocele in a 75 yr. old female is hereby presented, who had been suffering and ailing for some 15 to 16 yrs. Ventral Fixation and supravaginal hysterectomy some 25 yrs. ago had failed to prevent procidentia uteri and the formation of a large cystocele and rectocele. An operation is hereby described, principally vaginectomy, etc., which was performed on this patient resulting in a cure. In conclusion, this operation can be performed following or in conjunction with a complete hysterectomy or a supravaginal hysterectomy performed through vaginal approach. Or, if one prefers, a suprapubic supravaginal hysterectomy, or a complete hysterectomy can first be performed followed by this operation as described above to obtain a cure of the procidentia and the accompanying cystocele, rectocele and perineal floor relaxation. The rationale of this operation is as follows: the repair of cystocele with the support of the urethra anteriorly, the repair of rectocele and perineal relaxation posteriorly with perineal cervicopexy of a small portion of cervix uteri in between after a vaginectomy has been performed, the cervix and levator ani being sutured to the inferior rami of the os pubis.

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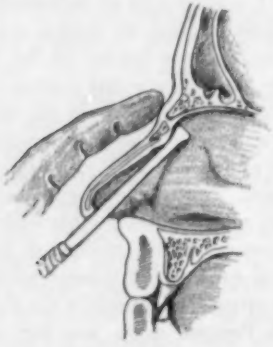
Clini-Clipping



Nose Fracture Treatment

Elevation of the depressed nasal bone with periosteal elevator and palpation of the outer parts of the nose.

Tendinitis and Various Joint Involvements

Observations on the Therapeutic Effect of A Combination of Muscle Adenylic Acid and Vitamin B_{12} in Their Treatment

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A survey of the many reports on the respective clinical effects of vitamin B_{12} and adenyl nucleotide indicates a remarkable therapeutic parallelism. For instance, Spies, Bean and Vilter[1] reported that adenosine-5-monophosphate relieved nutritional neuritis and various other symptoms of certain nutritional deficiencies. Similarly vitamin B_{12} has been reported to relieve nutritional, diabetic and alcoholic neuropathies.[2-3] Furthermore, foreign reports repeatedly give evidence of the beneficial effect of vitamin B_{12} in various neurological disorders, such as multiple sclerosis, polyneuritis, and pyramidal tract and spinocerebellar disorders.[4,5] Lowery, Moore and Cailliet[6] similarly report that muscle adenylic acid produced "definite and continued improvement" in a large percentage of the patients treated. Hallahan[7] reported that vitamin B_{12} therapy produced improvement in 30 of 33 patients with osteoarthritis. Among these, 14 patients showed 100 per cent improvement within three weeks of treatment. Hallahan's observations continued the therapeutic parallelism, as the antiarthritic efficacy of adenine nucleotide—namely in four patients with psoriatic arthritis and in 33 of 39 patients with chronic arthritis—had been reported earlier by Carlson and Lovgren.[8]

More recently, Grenier, Bavay and Lutier[9] observed that antiarthritic and antirheumatic therapy with adenosine triphosphoric acid compared favorably with corticotropin (ACTH). Reported similarities in the observed effects in addition to the clinical response included: increase in urinary 17-ketosteroids and decrease in both eosinophil count and sedimentation rate. Furthermore, Rottino[10] also showed that adenosine-5-monophosphoric acid improved 54 of 60 patients with tendinitis (bursitis) — stating that ". . . ameliorative and possibly curative effects are in every way as uniform and dependable as those resulting from x-ray therapy."

Procedure Consequently when an aqueous parental preparation† containing 25 mg. of muscle adenylic acid and 60

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† Cobaden, trade-mark of Rand Pharmaceutical Co., Inc., Rensselaer, New York.

mcg. of vitamin B_{12} in each cubic centimeter became available to the authors, they determined to explore its efficacy in painful, immobilizing affections of the synovial membranes and articulations. All cases selected had been unresponsive to prior treatment with either analgesics, hormones, or physical methods. Thus in the course of approximately one year 70 patients with osteoarthritis, polyarticular pain, polyarthritis, tendinitis (bursitis) musculofasciitis, tenosynovitis, peripheral neuritis (sciatica) and diabetic neuropathy received treatment with Cobaden.

Treatment consisted of intramuscular injections of 1 cc. daily, or on alternate days, or at any clinically determined interval suitable for continued improvement. In the majority of patients 10 injections provided effective treatment. In two instances only, four were necessary for a satisfactory response. Whereas in others therapeutic requirements sometimes exceeded 15 injections.

Results The number of Cobaden injections necessary for the initial therapeutic response appeared to be variable. Two patients said they felt less pain soon after the first injection. In a patient with periarthritis and possible bursitis in the right shoulder, two injections produced marked relief of pain. The first signs of improvement among five chronic arthritics appeared after three injections i. one, after four injections in another, after seven injections in two, and after eight injections in one. In subdeltoid bursitis, initial improvement followed six injections in one and nine, in another. A patient with severe left shoulder pain and negative x-ray findings, also required nine injections before the first sign of relief appeared.

Pain relief and restoration of movement was impressive among the treated patients. In one patient who had experienced only moderate relief from a previous course of cortisone therapy, Cobaden injections restored the ability to pick up small objects, to cross the knees and to walk with ease. Another patient with osteoarthritis of the hip and spine, and also with congenital bilateral dislocation of the hip, said that she had not felt such freedom from pain and such ease of movement after any other prior treatment, as she did after combination therapy with muscle adenylic acid and vitamin B_{12}. In a patient with subdeltoid bursitis, this therapy restored the range of motion of the right arm from 15°-abduction to 120°-abduction. Cobaden injections also restored full mobility to an elbow which before treatment had been restricted to a 25°-range.

Effect on other symptoms apart from, or coincidental with the patient's joint condition, was not overlooked. Thus in one instance improvement in the patient's psoriasis was noted during treatment. In several hypertensive patients a continuous hypotensive effect was repeatedly observed. This drop in blood pressure is probably due to the vasodilator action of adenine nucleotide which was first observed experimentally and reported by von Issekutz.[10] However, in no instance was there evidence of any toxic or untoward effect during treatment.

Treatment was successful in terms of pain-relief, restored mobility, and diminished swelling and tenderness in 66 of the 70 patients selected for this study. (94.29 per cent). Therapy with this combination was ineffective in one case of mixed osteo- and rheumatoid arthritis. Treatment failed in a patient with arthritis deformans of fifteen years duration, and in another patient with chronic polyarthritis. A patient with diabetic neuropathy was not benefited by these injections, and also one with traumatic bursitis obtained no relief. In the latter, failure may have been due to the inadequacy of the number of Cobaden injections.

The following chart presents a brief individual case history for each of the 70 patients treated.

CLINICAL RESULTS

Patient	Age	Sex	Diagnosis	Duration	Involvement	X-Ray Diagnosis	Previous Medication	Cobaden Treatment	Results	Comments
1. W. F.	46	F	Polyarticular Pain	3 yrs.	Fingers—both hands, right shoulder back of neck	Negative	All types of Anti-arthritic treatment, no lasting results	1cc. daily 15x	Excellent	Discharged as much improved. Able to resume duties.
2. C. A.	51	M	Sciatica	2 yrs.	Left thigh, leg, ankle	Negative	Diathermy Codeine 1 gr. Salicylates	1cc. daily 15x	Good	Relief of pain. Discontinuance of Analgesics. Treatment continuing.
3. L. D.	38	M	Bursitis	2½ yrs.	Right Shoulder	Negative	Analgesics Diathermy Hot Wet Packs	1cc. daily 5X	Excellent	At beginning of treatment patient unable to lift arm. After 5 treatments patient able to elevate arm about 80 degrees. Can now use hand and fingers freely. Returned to work 4/28/53. First time in many months.
4. M. V.	58	F	Bursitis	1 mo.	Left Cervical Group Muscles	Negative	Analgesics	1cc. daily 3x	Excellent	Patient made uneventful recovery.
5. F. S.	48	M	Bursitis	2 mo.	Right Shoulder	Negative	Analgesics Infra-red Lamp	1cc. daily 5x	Excellent	Patient made uneventful recovery.
6. F. A.	75	M	Polyarticular Pain	many yrs.	Both Shoulders Both Knees	Negative	Diathermy Analgesics	1cc. daily 5x	Excellent	Complete relief from pain. Patient feels much better.
7. G. J.	70	F	Bursitis Tendinitis	5 yrs.	Left Knee	Negative	Diathermy Analgesics	1cc. daily 10x	Excellent	End of 10 day period patient able to sleep without sedatives. Can walk without much effort, has very little pain.
8. L. S.	50	M	Polyarticular Arthritis	11 yrs.	Shoulders, Fingers, Knees, sacroiliac region, also severe psoriasis	Negative	All types including ACTH and Cortisone	1cc. daily 18x	Very Good	Pain much less severe. Presently receiving bi-weekly treatment with Cobaden. Note: Psoriatic lesions greatly improved, no flaking; lesions on plantar surfaces of feet have disappeared first time in years.
9. F. T.	54	M	Arthritis	many yrs.	Lumbo-Sacral Region	Positive	All types	1cc. daily 10x	Very Good	Patient feels much better. Greatly improved, much less pain, says he requires no further treatment.
10. A. F.	73	F	Diabetic Neuropathy	6 mo.	———	———	Analgesics	1cc. daily 10x	No apparent results	Patient still under treatment.
11. M. S.	64	F	Bursitis	1 mo.	Left Shoulder	Negative	Diathermy	1cc. daily 5x	Excellent	Discharged as recovered.
12. L. S.	49	F	Osteoarthritis	many yrs.	All Joints	Positive	All types	1cc. daily 12x	Fair	Some relief of joint pain.

Patient	Age	Sex	Diagnosis	Duration	Involvement	X-Ray Diagnosis	Previous Medication	Cobaden Treatment	Results	Comments
13. C. J.	50	F	Teno-Synovitis	3 yrs.	Rt. Knee	Negative	Analgesics, Diathermy	1cc. daily 10x	Good	Pain diminished, motion restored.
14. P. G.	29	M	Bursitis with Calcification	3 wks.	Left Shoulder	Positive	Diathermy, Codeine	1cc. daily 6x	Excellent	Patient completely symptom free.
15. F. F.	45	F	Bursitis with Calcification	2 wks.	Left Shoulder	Positive	Analgesics	1cc. daily 5x	Excellent	Patient discharged symptom free.
16. L. T.	51	F	Tendinitis left-sterno mastoid	3 wks.	Left Sterno-Mastoid Muscle	Negative	Diathermy	1cc. daily 5x	Excellent	Patient discharged symptom free.
17. L. A.	49	F	Tendinitis some Osteo-arthritis	3 mo.	Rt. Hip	Positive	Diathermy Salicylates	1cc. daily 10x	Good	Considerable improvement of motion pain diminished.
18. J. B.	69	F	Osteoarthritis	1 yr.	Rt. Knee	Positive	Butazolidin Salicylates Diathermy	1cc. daily 10x	Excellent	Definitely less pain. Less swelling, less tenderness.
19. B. G.	41	F	Osteoarthritis	1 yr.	Rt. Shoulder	Positive	Diathermy-Cortisone, Salicylates	1cc. daily 10x	Excellent	Increased range of motion to about 120 degrees. Patient symptom free for many months.
20. H. K.	62	F	Sub-deltoid Bursitis	3 mo.	Rt. Shoulder	Negative	Deep X-Ray Butazolidin	1cc. daily 9x	Excellent	Patient now able to abduct arm to full motion.
21. J. D.	82	M	Sub-deltoid Bursitis	5 days	Left Shoulder	Negative	Diathermy Analgesics	1cc. daily 6x	Excellent	All clinical signs of bursitis disappeared.
22. M. J.	68	F	Osteoarthritis	10 yrs.	Left Hip Spine	Positive	All types including Cortisone	1cc. daily 10x	Excellent	Patient free from pain. Reports—feels tremendously relieved.
23. B. S.	48	F	Osteoarthritis Sciatica	1 yr.	Rt. Hip Rt Knee	Positive	Cortisone Demerol	1cc. daily 10x	Good	Considerably relieved of pain and discomfort. Still under treatment.
24. W. B.	69	F	Generalized Osteoarthritis	many yrs.	All Joints	Positive	All types Cortisone; ACTH	1cc. daily 14x	Fair	Pain lessened. Patient still has difficulty getting around but progressively improving.
25. E. L.	43	M	Tendinitis Bursitis	8 mo.	Left Knee bursa head of Fibula	Negative	Analgesic Diathermy	1cc. daily 7x	Excellent	Complete relief. Patient returned to work.
26. G. I.	40	M	Bursitis	1 yr.	Rt. Shoulder	Negative	Diathermy Analgesics	1cc. daily 4x	Excellent	Patient, a carpenter, able to return to work for first time in a year. Reports full use of right arm—able to swing 20 lb. sledge hammer.
27. J. M.	39	M	Traumatic Bursitis	3 yrs.	Rt. Shoulder	Negative	Deep X-Ray Therapy Diathermy	1cc. daily 5x	Poor	No relief of pain. Perhaps more treatment required.

28. A. A.	75	M	Osteo and Rheumatoid Arthritis	10 yrs.	Deformity of various joints, pain in hands, knees, ankles	Positive	Diathermy Analgesics—Vaccines Cortisone	1cc. daily 7x	Poor	No relief. Treatment discontinued.
29. R. S.	36	F	Traumatic Bursitis	9 mo.	Rt. Shoulder	Negative	Diathermy Analgesics	1cc. daily for 10 days	Excellent	Patient discharged—Relief complete. Full motion of arm restored.
30. I. R.	40	F	Subdeltoid Bursitis	3 mo.	Rt. Shoulder	Negative	Usual palliative measures	1cc. daily 5x	Excellent	Patient discharged—Symptom free.
31. H. T.	39	F	Generalized Infectious Arthritis	2 yrs.	Various joints	Negative	Usual measure plus sedatives	1cc. daily 14x	Good	After course of treatment, patient free from pain. Able to sleep without sedatives.
32. L. A.	68	F	Peripheral Neuritis	2 wks.	Left Elbow	Negative	Diathermy	1cc. daily 5x	Excellent	Patient discharged—Complete relief.
33. J. L.	58	F	Arthritis Deformans	15 yrs.	Deformity hands, fingers, stiffness of joints—knees, ankles, feet	Positive	Cortisone, ACTH Butazolidin Diathermy-Analgesics ETC.	1cc. daily 14x	Fair	Patient somewhat improved. Stiffness of joints relieved. Pain diminished.
34. J. D.	75	M	Generalized Arthritis	12 yrs.	Rt. and Left ankles and knees Crepitation both shoulders	Positive	All types	1cc. daily 12x	Excellent	After 7 treatments no shoulder pain, after 10th, pain and stiffness in both knees disappeared. Some pain in left heel.
35. F. L.	88	F	Arthritis	many yrs.	Rt. and Left knees, left heel	Positive	All types Physiotherapy analgesics	1cc. daily 10x	Good	Definite relief after 8 daily injections. After 10th (final) pain and stiffness of both knees disappeared. Still moderate pain in left heel.
36. P. P.	50	F	Polyarthritis	many yrs.	Rt. arm, wrist, shoulders—toes, fingers	Positive	All types	1cc. daily 10x	Good	After 10 treatments blood pressure dropped from 140/100 to 130/100. Pain much relieved but present once in a while.
37. N. E.	36	M	Polyarthritis	6 yrs.	All Joints	Positive	All types	1cc. daily 10x	Excellent	After 7th treatment less pain and stiffness, particularly in knees. 10th and final treatment able to walk and free from pain.
38. H. F.	54	F	Subdeltoid Bursitis	many yrs.	Rt. Shoulder	Negative	Diathermy Infra-Red Analgesics	1cc. daily 12x	Excellent	No relief until 9th treatment—then patient could raise arm 80 degrees, after 10th treatment could raise arm 110 degrees—after 12th (final) could raise and lower arm without difficulty. No pain, no stiffness.
39. L. L.	55	F	Arthritis	11 mo.	Hands—knees ankles, rt. shoulder	Positive	Deep x-ray Salicylates Diathermy	1cc. daily 10x	Very Good	Improvement after 3rd treatment—8th treatment patient could elevate arm 40 degrees—could go up and down stairs, no difficulty, no stiffness. Able to sleep well without hypnotics, after 10th (final) treatment, Feels very well, can now lift simple objects.

Patient	Age	Sex	Diagnosis	Duration	Involvement	X-Ray Diagnosis	Previous Medication	Cobaden Treatment	Results	Comments
40. E. G.	45	M	Arthritis	1 yr.	Both knees and arms, interphalangeal joints	Positive	All types. Hospitalized 2 mos. Cortisone 6 wks.	1cc. daily 10x	Excellent	Blood pressure was 132/80, crackling sensation disappeared from finger joints. Free from pain, crossed legs after 10th injection. Blood pressure 120/80. Completely free of pain in arms, legs, back. No stiffness.
41. H. R.	36	M	Bursitis	3 wks.	Left Shoulder	Negative	Analgesics	Allep 391 10x	Excellent	After 8th treatment—pain moderate, could move arm 35 degrees. After 10th treatment, free from pain. Moves arm in all directions. Completely recovered.
42. J. S.	50	M	Subdeltoid Bursitis	1 yr.	Rt. Shoulder	Negative	Diathermy-Analgesics	1cc. daily 10x	Excellent	At beginning of treatment B.P. 150/100. 16th treatment of 115/85. Complete relief from pain and other symptoms. Patient discharged as recovered.
43. M.	68	F	Osteoarthritis	4 yrs.	Back Left Knee	Positive	Analgesics	1cc. daily 5x	Very Good	Patient discharged as improved. Patient feels much better.
44. A.Q.	40	M	Bursitis	2 mos.	Left knee	Negative	Analgesics	1cc. daily 6x	Very Good	Patient discharged as improved. Experiences no pain at end of working day.
45. C. B.	49	M	Osteoarthritis	8 yrs.	Back and both knees	Positive	Analgesics Hormones	1cc. daily 10x	Excellent	Arthritic pain improved. This patient's psoriasis was also improved after Cobaden injections.
46. M. D.	52	F	Polyarthritis	6 mos.	Pain and swelling of joints & fingers	Negative	Analgesics Diathermy	1cc. daily 14x	Good	Pain & swelling relieved. Patient still under treatment.
47. G.	28	F	Polyarticular pain & restriction	1 mo.	Left hip & knee	Negative	Analgesics Diathermy	1cc. daily 10x	Excellent	Articular stiffness & limp relieved. Motion restored. Discharged as cured.
48. A. D. L.	70	M	Osteoarthritis	many years	Both shoulders & knees	Positive	Analgesics	1cc. daily 10x	Excellent	Pain relieved. Patient has not returned since discharge.
49. Q.	58	F	Musculo-fasciitis (tendinitis)	1 yr.	Left cervical group of muscles	Negative	Analgesics	1cc. daily 4x	Excellent	Discharged as cured.
50. M. H.	64	F	Osteoarthritis	6 mos.	Lower lumbar area	Positive	Analgesics Diathermy	1cc. daily 10x	Good	Still under treatment. Patient "feels better."

51. M. K.	53	F	Osteoarthritis Sciatica	2 yrs.	Lower back pain radiating down to calves. Crepitation in the right knee.	Positive	Analgesics	1cc. daily 4x	Good	Back pain lessened.
52. M. C.	38	F	Acute Arthritis	1 mo.	Left shoulder	Negative	None	1cc. daily 10x	Very Good	Much improved. Treatment continued.
53. A. G.	44	M	Polyarthritis	several years	All extremities	Negative	Analgesics Diathermy	1cc. daily 14x	Excellent	Symptoms improved. Able to do usual work.
54. P.	66	F	Polyarthritis	many years	Shoulders, wrists & hands	Negative	Analgesics	1cc. daily 8x	Good	Pain lessened. Blood pressure dropped from 230/110 to 164/98 during treatment. Patient has not returned to clinic.
55. L. M.	55	F	Polyarticular Pain	2 yrs.	All joints	Negative	Analgesics Diathermy	1cc. daily 10x	Very Good	Pain lessened. Hypertension reduced during treatment from 220/130 to 190/100.
56. A. L. P.	34	F	Osteoarthritis	3 yrs.	Lumbar region	Positive	Analgesics Psychotherapy	1cc. daily 12x	Very Good	Treatment continued with 1 injection weekly. Patient relieved from pain; returned to work.
57. C. S.	50	F	Polyarticular Osteoarthritis	4 yrs.	Spine and legs	Positive	Analgesics Diathermy	1cc. daily 10x	Excellent	Pain & stiffness relieved to almost complete recovery.
58. A. D.	40	M	Osteoarthritis	7 yrs.	Lumbar region	Positive	Analgesics Hormones Diathermy	1cc. daily 10x	Very Good	Discharged as improved; pain relieved.
59. A. T.	45	F	Polyarticular Pain	4 mos.	Pain & stiffness in right hand & restriction of middle finger	Negative	None	1cc. daily 10x	Excellent	Pain & stiffness relieved; full motion restored to middle finger.
60. H. R.	63	M	Osteoarthritis	several years	Pain in both knees & Crepitation	Positive	Analgesics	1cc. daily 8x	Very Good	Pain improved; treatment continued.
61. M. H.	66	F	Articular Pain	1 mo.	Pain in hips and knees	Negative	Analgesics Diathermy	1cc. daily 10x	Very Good	Pain relieved. Treatment continued.
62. A. R.	45	M	Osteoarthritis	5 yrs.	Both knees	Positive	Analgesics Diathermy	1cc. daily 12x	Excellent	Patient had refused arthrodesis. Much improved by treatment; able to resume work. Treatment continued.
63. B.	69	F	Polyarticular Pain	1 yr.	All joints restriction of left shoulder	Negative	Analgesics	1cc. daily 13x	Fair	Patient can move arm & shoulder more freely. Refused further treatment. Complaints relieved.
64. A. M.	50	F	Osteoarthritis	4 yrs.	pain & cripitation in both knees	Positive	Analgesics Hormones	1cc. daily 24x	Excellent	Discharged.

Patient	Age	Sex	Diagnosis	Duration	Involvement	X-Ray Diagnosis	Previous Medication	Cobaden Treatment	Results	Comments
65. S.	59	F	Osteoarthritis	2 yrs.	Right leg	Positive	Analgesics Diathermy	1cc. daily 8x	Very Good	Improved.
66. M. H.	34	F	Osteoarthritis	13 yrs.	Legs	Positive	Hormones, for the past 2 years.	1cc. daily 9x	Excellent	Resumed work full time.
67. E. H.	53	F	Polyarticular Osteoarthritis	8 yrs.	Hands, elbows bones & other joints	Positive	Analgesics Diathermy Hormones	1cc. daily 10x	Excellent	Pain & swelling before treatment & also stiffness in knees & right hand. Motion in left elbow only 25°. Complete relief & full motion restored.
68. J. G.	24	M	Traumatic Tendinitis	2 mos.	Tip of spine & cervical vertebra	Negative	Analgesics	1cc. daily 10x	Very Good	Pain relieved.
69. A. D. P.	59	M	Polyarticular Pain	several years	All joints	Negative	Analgesics Hormones	1cc. daily 10x	Excellent	Feels much better.
70. A. D. P.	58	F	Polyarticular Pain	several years	Hands, elbows, shoulders	Negative	Analgesics Hormones	1cc. daily 10x	Very Good	Improved; hypertension reduced during treatment from 190/90 to 160/80.

Summary

1. Treatment successful in 66 of 70 patients.

2. In 18 patients with bursitis response was excellent in 15, good in 1, fair in 1 and poor in 1.

3. In 37 patients with various arthritic involvements response was excellent in 20, very good in 6, good in 7, fair in 3, and poor in 1.

4. In 9 patients with polyarticular pain response was excellent in 5, very good in 3, fair in 1.

5. In 4 patients with tendinitis (including 1 with musculo-fasciitis and 1 with tenosynovitis) response was excellent in 1, very good in 1, good in 2.

6. In 2 patients with sciatica response was good in 2, and in one with a peripheral neuritis response was excellent.

7. In 1 patient with diabetic neuropathy there was no response to treatment.

Conclusion

Cobaden injections often give relief in involvements of articulations and synovia, when all other therapeutic measures fail.

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Man, Supreme Booby

Not since the days of the Fishbein editorial regime has the *J.A.M.A.* published a piece in the comic tradition so amusing as its spoofing of Dr. Robert Alan Franklin, in the *J.A.M.A.* of November 28, 1953 entitled "The Business of Bolstering Bosoms." As a standard of comparison we are thinking of the piece published something like twenty years ago in the *J.A.M.A.* describing and commenting upon a mechanical device for which a patent had been sought, which purported, by means of a super-Goldberg contraption with specifications of levers, pulleys, gears and pistons to make intercourse the liveliest of circuses with no expenditure of physical effort whatsoever on the part of parties of the first and second part. The machine was alleged to do *everything.* All of which was solemnly described by Fishbein, tongue in cheek, as though he were reporting a discovery momentous for medicine.

Franklin's operation is called "breast-plasty". If we take figures quoted by an article in Pageant magazine it can be offered to the 4,000,000 young American women whose micromastia would suitably adorn only a race of Liliputian stature and to the 10,000,000 whose mammary ptosis is of the deplorable indian-club or sash-weight order.

That such defects exist is evidenced sufficiently enough by the devices worn by so many women to camouflage mammary deficiencies. There must be a serious social consequence to all this, since many an impressionable young man falls naively for the deception and marries a Venus of apparent mammary opulence only to find that his bride is a phony Vesta, Roman goddess of the hearth and home. Can a more tragic frustration be imagined? Here is one basis for incompatibility—no honest dowery of pectoral pulchritude. As Lucian said (XI:408)—"You can never make a Helen out of a Hecuba."

It is an odd fact that the erotically allergic male of the human species accepts artificial enticements with the same zest that he succumbs to genuine charms, prior to his inevitable disillusionment. In this regard he is the eternal sucker.

The women of ancient Greece and Rome seem to have been especially sophisticated in the art of erotically motivated camouflage. All women of the upper classes wore breast-bands, or bust supporters. The breast holders were worn around the breast, usually under the chiton and therefore on the bare skin, raising and emphasizing the bosom, preventing unsightly hanging and covering any defect in their breasts' beauty (Ovid, *Remedia Amoris;* Martial, XIV:134). "One who lacks hips puts on under her clothes some material as a substitute, so that all who see her praise aloud her *cupygia* (beautiful buttocks)."

Aristophanes (Pollux, VII:95; C.A.F. 1:474) lists bands which were placed around the buttocks, serving to raise them and make them more prominent.

Man, supreme booby, behold thyself!

A.C.J.

Clinico-Pathological Conferences

New York University-Bellevue Medical Center Post-Graduate Medical School, Department Of Medicine at Bellevue Hospital, Fourth Medical (N. Y. U.) Division

PATIENT J. S.

This was the 6th BH admission of J. S., a 38-year-old white male married window cleaner who was re-admitted for anemia, weight loss, fatigue and weakness.

Present Illness Patient was well until Sept. 1949 at which time he wrenched his back at work, developed a persistent low backache which recurred daily, was increased by activity and subsided with rest. X-ray in 1949 disclosed displaced lumbar vertebra. He was put in plaster cast. Within 2 months, he had swelling of glands in both inguinal regions. Biopsy was performed in March 1950 at Hospital for Joint Diseases and this revealed Hodgkin's disease. (The major diagnosis in this case is because it is obvious. Other features of this case are considerably more interesting.)

Clinic treatment was begun in March 1950 in St. Vincent's Hospital where he received 24 tablets of nitrogen mustard for a 2-month period. The glands were reduced and the back pain temporarily relieved. He received 1 gm. cortisone from Nov. 7 to 14th, 1950 with relief of back pain, improvement in appetite and sense of well being. In December 1950, a butterfly malar rash developed and disappeared with cortisone therapy.

Patient's *1st admission* to BH (12/7/50 to 12/22/50) was for back pain, pleuritis and glandular swelling. He received a course of X-ray and i.v. HN, and was discharged to hematology clinic. *2nd admission* (4/18/51 to 5/5/51) was for differential diagnosis of chest infiltrations which resembled TB. For 1 month PTA, patient had short episodes of pleuritic pain and small hemoptysis. All AFB studies were neg. He was discharged to be followed in chest clinic and therapy was liver and iron. He again noted weakness. His low back pain had been present almost constantly since the onset of present illness. He noted new glandular swelling. Neck nodes had been persistently large without recent change. Pt. went to various libraries about this time and read extensively on Hodgkin's disease.

Because of above symptoms plus anemia patient was *admitted for the third time* (1/7/52 to 1/16/52). He received 1000 cc. whole blood but nitrogen mustards and radiation therapy and cortisone were withheld because of minimal pain and adenopathy. Minimal papilledema was noted on right. He was discharged to hematology clinic. *4th admission* (3/10/52 to 3/18/52) was for back pain and weakness in legs of 6 mos. duration. The pain was located approximately 4 cm. to the right of L5. It radiated over entire right posterior iliac crest but not down leg or foot. Neurological examination revealed right pupil reacted poorly to light, left reacted promptly. DTR's were equal and active and gait was good. There was no ataxia.

There were bilateral Babinskis—more positive on the left. Neurologist believed cord involvement was present. Patient refused lumbar puncture and signed out AOR.

5th admission (7/1/52 to 7/8/52) was for vomiting, weakness and anorexia and anemia. After previous discharge, the patient had been attending two independent hematology clinics simultaneously without this fact being known to the clinics. Simultaneously, he received TEM (Tri-ethylene melamine—oral nitrogen mustard) from one clinic and cortisone from the other.

While in the hospital, he was retyped

Laboratory Data

Urine

Date	Color	SG.	pH	Alb.	Sug.	WBC	RBC	Other
12/8/50	yel.	1.022	6.0	v.f.t.	0	rare	0	Ca oxylate crystals
4/19/51	yel.	1.021	ac.			0	0	
3/12/52	pale.	qns.	alk.	C	0	occ.	0	amorphous sediment
7/3/52	straw	1.012	ac.	0	0	rare	0	
9/3/52	straw	1.022	ac.	4+/1000mg.	0	0	0	hyal. casts, ca. oxylate cryst.
11/19/52	cl.	1.010	ac.	4+/1200mg.	0	1-2	0	as above + gran casts
12/5/52	straw	1.010	ac.	4+	0	occ.	many	as above + gran casts

Blood

Date	Hb.	RBC	WBC	Tr	P	L.	M	E.	B	Smear	ESR	Hct.	Platelets
12/21/50	12.0	4.08	22,400	15	72	5	4	4	0	toxic gran in lymphs	75		350,000
4/20/51	11.5		13,300	0	75	18	5	2	0				350,000
1/14/52	9.5	3.10	15,050	24	63	7	5	2	0	target cells, basophilic stippling			420,000
3/10/52	8.5	3.6	19,000	15	72	5	4	3	1	hypochromic toxic granules	80		215,000
7/2/52	7.0	3.11	8,450	20	59	16	3	2	0	as above, retics 2%		23	
9/2/52	6.5	2.39	11,000	18	69	8	1	2	0	as above	75	20	285,000
10/20/52	8.5	2.72	3,600	(After HN_2 therapy)									55,000
12/5/52	8.0	2.05	1,250	43	25	27	4	1	0	as above	63	30	119,000

Blood Chemistries

Date	Alk P'tase	Acid P'tase	P	II	Total Pro.	A/G	CFT	Sug.	NPN	Creat	Chol/-Esters
12/20/50	5.1	1.0	5.05								
4/30/51	4.0		4.10	7	5.0	3.7/1.3	neg.				
9/3/52				4	5.0	3.1/1.9	0	94	30	0.7	
10/27/52						1.8/1.5				1.0	
11/6/52								69			374
11/10/52	4.1		4.1	9	4.0	1.5/2.5					470

Miscellaneous

Date	Stool Blood	Sputum for AFB Smear	Culture	Na	Ca	K	Ven. Press.	Circ. Time	CO_2 meq	Congo Red
12/7/50	+									
4/19/ to 4/29/51, many AFB tests neg.										
3/12/52	0									
9/10/52	4+									62% absorption
10/8/52				124	7.2	3.7			16	
11/25/52		neg.	neg.	131	6.6	3.7	100 mm H_2O	15 sec decholin	44 vol. %	

Mazzini neg. each admission.
Coombs' test neg. 9/19/52.
Abdominal fluid—11/12/52, cloudy, 2500 cc., S.G. 1.006, RBC 6, WBC 0, protein 0.9%, chlorides 61%.

prior to transfusion and this time was found to be type O, RH negative. Transfusions on previous admissions had been type O. RH positive. On 3rd hospital day, he received 750 cc. of O, RH negative, blood which was about to be outdated and developed severe transfusion reaction. Subsequently, he received another 1000 cc. of same type without reaction and was discharged to the hematology clinic.

6th BH admission (9/2/52, expired 12/9/52) was for "anemia and pain in right shoulder blade."

Admission Physical T. 100.6 P. 100 R. 18 BP 110/60.

Patient was a 38-year-old male with evidence of marked weight loss and appearing chronically ill. There was generalized, firm, adherent lymphadenopathy. Fluoroscopy confirmed Px on presence of right pleural effusion, infiltration LLL and pericardial adhesions. Mediastinum was widened. Heart had NSR, normal size and soft apical systolic murmur. Spleen was easily palpable 2 fbths below costal margin. 1 + pitting edema of extremities was present.

Course in Hospital Patient was essentially afebrile throughout course. He was given whole blood, combined radiation and HN2, later cortisone without resulting improvement. He developed massive anasarca which failed to respond to antidiuretic agents. He became progressively weaker and expired quietly on 12/9/42.

Case presented from the wards of the Fourth Medical Division, Bellevue Hospital, Dr. Charles Wilkinson, Dir.

Write your own clinical impression or formulation here, if you wish.

Pathological Findings

The *Hodgkin's Disease* had largely been arrested; several infiltrates in the lung had viable cells, but the pulmonary lesions and those in the lymph nodes and spleen had been entirely replaced by hyaline scar tissue. Fibrosis is frequently an end result of the Hodgkin's lesion and undoubtedly was accelerated here by the radiation and nitrogen mustard therapy.

The basis of the *nephrotic syndrome* was severe *secondary amyloidosis* of the kidney, with involvement of the spleen, adrenals and lymph nodes. Minor involvement was found in the liver and in the islets of Langerhans. The amyloidosis is perhaps slightly atypical insofar as it did not cause a more definitive Congo Red test clinically and because of unusual occurrence in the lymph nodes and islets. The latter is of interest in view of the thesis that ordinary hyalinization of the islets of Langerhans is a form of atypical amyloidosis (1). Amyloidosis is recognized to be a complication of Hodgkin's disease (2), although not a common one.

The cutaneous eruption was suggestive of lupus erythematosus except that it was maculopapular. It may have been due to cutaneous involvement in Hodgkin's disease. There is at least one case report of Hodgkin's disease with cutaneous manifestations of lupus (3).

In the bodies of the 4th lumbar vertebra, a large cystic area of destruction of bone was present. This in part resembled areas of cystic necrosis and fibrosis of the clavicle, sternum and ribs that must be attributed to radiation. In addition, however, there was a deposit of basophilic extracellular material. It was not metachromatic after declarification; nevertheless it had certain similarities to the

amyloid substance.

This was located in the region of the backache that first brought the patient to medical attention in 1950. That some extensive bony lesion was involved is indicated by the serum calcium concentration of 13.6 mg. % in 1950 and only 6.6 just before death. The radiation and nitrogen mustard therapy, in combination with the preceding bony lesion, undoubtedly was responsible for the anemia.

References

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PATIENT D.V.

This was the 5th B.H. admission of a 59-year-old alcoholic white male, D.V., (5/24/52 to 8/8/52) a divorced, unemployed coal miner who complained that for 2 days "I couldn't get my wind." He had been described previously by a psychiatrist as pre-psychotic. Recent history was unreliable but one observer had followed the patient for several years and was able to fill in many details. Old charts appeared reliable.

1st B.H. admission (8/23/46 to 8/28/46) to surgical service for laceration of lip. Except for lip, Px. was negative. Patient was alert, well developed and cooperative. BP was 120/80 and heart was within normal limits. Spinal tap was performed because of head injury and it was negative. Urine examination and blood (cbc) were within normal range.

2nd B.H. admission (5/8/51 to 5/18/51) to medical service. Had dyspnea for many years. *Two days PTA*, patient noted onset of dyspnea and orthopnea. *One day PTA*, he noted tearing pain across anterior chest which did not radiate, was persistent and made worse by walking. No previous history of angina, orthopnea, ankle edema, R.F., hypertension, digitalis usage, pleuritic pain, fever, chills or night sweats. Had productive cough since 1932, occasionally blood streaked.

P.H.: Negative except for "flu" in 1918. Worked in coal mines 20 years up to 1931.

F.H.: Father died age 85 of silicosis. Mother died in childbirth. No siblings.

Px: T-101° P 80 NSR B.P. 220/50 R 28

Patient was a w.d. obese white male, dyspneic, sweating profusely but not cyanotic. Could lie flat in bed and had no edema, pallor, petechiae, icterus, or clubbing. Vessels of fundi showed tortuosity, increased light reflex and flame-shaped hemorrhages.

Chest was emphysematous. Subscrepitant rales were present over both posterior bases. Heart was enlarged to left. Sounds were good quality. M_1 M_2, A_2 P_2, was a rough, medium pitch, apical systolic murmur transmitted over entire precordium. Neck veins were full and filled from below. Abdomen and neurological examination were negative.

Hospital Course Serial EKG's revealed NSR, no DEA, mid-position, moderate clockwise rotation, LVH and evidence of old but not recent posterior wall infarction. X-ray revealed heart enlarged transversely. Decholin circulation on admission was 24 sec. On 3rd hospital day, Wintrobe corrected sed. rate was 40 mm/hr. WBC on admission was 13.6. Patient was digitalized and given mercurials. He ran befrile course in spite of antibiotics and signed out AOR on 10th hospital day.

3rd B.H. admission (7/20/51 to 10/10/51) to medical service.

Patient was admitted from clinic because of increasing dyspnea and ankle edema, constipation, weight loss and

guaiac + stools. Two weeks PTA, he had stopped digitalis. Had lost 52 lbs. in three months in spite of good appetite.

Px was similar to previous admission except that lungs were clear and he had + pitting edema of ankles. BP was 220/140. Grade IV retinopathy was present.

Hospital Course While in the hospital, G.I. #1 report showed at least two duodenal ulcers without disturbance of gastric motor function. Meulengracht diet and antispasmotics were started. In spite of severe constipation and occasional fecal impaction, Ba enema and proctoscopy revealed no lesion of large bowel except for possible area of suspicion in cecum.

While on the medical service, it was stated that cardiac decompensation was present although specific and objective evidence was not given on chart. Heart was said to be enlarged and renal impairment was stated to be present. Pt. was digitalized and given mercurials.

On 8/4/51, he was transferred to neurological service and on 8/7/51, a right thoracolumbar sympathectomy was performed because "malignant hypertension was diagnosed." Following operation, patient was disoriented and had elevated NPN for about 4 weeks. There was no significant drop in blood pressure except immediately after operation.

On 9/19/51, a left thoraco-lumbar sympathectomy was performed. Immediately postoperatively patient went into shock for 48 hours with B.P. of 90/60, was confused and disoriented and NPN rose. Following this, he made uneventful recovery and was discharged on 10/10/51 to neurosurgical clinic.

4th B.H. admission (11/2/51 to 11/19/51) to medical service. Patient was readmitted because of dyspnea, extreme weakness and weight loss of 8 pounds since discharge in spite of good appetite. During the interval between admissions, he had no G.I. complaints, followed no diet but did continue digitalis faithfully. Sequelæ of sympathectomy included marked sensitivity and pain over operative sites, loss of erections but no change in B.P. The only beneficial result was a definite decrease in incidence of headaches.

Px was essentially as on previous admission. B.P. varied between 180/135 and 220/130. Fundi showed blurring of nasal margins of discs, old hemorrhages and exudates but no papilledema. Neck veins were not distended. Lungs had a few subcrepitant rales at both bases. Heart was as described above. No peripheral edema was present.

Hospital Course On admission, venous pressure was 120,140 and decholin time 20″ and 24″. G.I. series again disclosed duodenal ulcers. Pt. was given bed rest, ulcer therapy and continued on digitalis and mercurials. Wt. was 140 lbs. on admission, 143½ lbs. on discharge on 11/19/51 at which time his condition was essentially unchanged.

5th B.H. admission (5/24/52, died 8/8/52) to medical service. Pt. was readmitted because of dyspnea, weakness, weight loss, PND and headaches. *Px* was as on previous admission. B.P. was 250/150. An aortic systolic murmur, high pitched transmitted up neck vessels was mentioned in addition to the apical systolic murmur previously described. There was no objective evidence of CHF.

Hospital Course Pt. was continued on previous cardiac therapy. He began complaining of pain over left operative site which was so severe he could not walk. One month after admission, he complained of nausea and vomiting. Pulsus alternans developed followed by a bout of paroxysmal auricular tachycardia at 180 min. This reverted to NSR at 88/min. spontaneously. Digitalis was temporarily cut.

Pt. developed gradual uremia with lethargy and "pre-psychotic" symptoms. During second month in hospital, he developed 1st degree A-V block with runs of paroxysmal tachycardia which were readily converted to NSR by holding breath or

carotid sinus pressure. Digitalis was again temporarily cut and quinidine was given.

He became progressively weaker, lost appetite and had difficulty swallowing food. Levin tube feedings and clyses were instituted. B.P. continued at 260/160.

By 8/5/52, pt. was pulling out all catheters. It was thought he had ruptured posterior urethra in so doing. By 8/6/52, he became semicomatose. Fine, crackling rales were heard over both posterior bases. He was found to have quietly expired on 8/8/52.

Laboratory Data

Urine

Date	Cath.	Sp. G.	pH	Color	Alb.	Gluc.	WBC	RBC	Other
8/27/46	no	1.015	alk.	yell.	0	0	0	0	Oxylate crystals
5/8/51	no	1.016	acid	yell.	2+	0	0	0	hyaline casts
8/17/51	no	1.026	cl. amb.	acid	1+	tr.	rare	load.	granular casts
11/2/51	no	1.023	6.0	yell.	1+	0	3-4	5	rare hyaline casts
9/23/52	no	1.013	acid	yell.	2+	0	0-2	0-2	rare hyaline casts
7/31/52	no	1.006	acid	pale	2+	0	many	2-4	

Blood

Date	Hgb.	RBC.	WBC	TR.	P.	L.	M.	E.	B.	Hct.	ESR.	Stool guaiac
8/27/46	14.5	5.74	7.6	0	77	18	3	2	0			
5/8/51	13.0	4.4	13.6	16	61	20	3	0	0		40	neg.
7/20/51	13.0	4.2	7.8	4	63	31	2	0	0		12	+
11/2/51	13.5	5.0	10.0	2	70	21	5	1	1	40	36	neg.
7/16/52	12.0	5.27	9.35									

Blood Chem.

Date	NPN	Creat.	Protein	A/G	CFT	II	Alk P'tase	CO_2 com. power Vol. %	Chlor. NaCl	Chol/ esters
5/8/51	40		6.9	5.4/1.5	weak+	14				
8/14/51	33		8.2	4.5/2.7	neg.	18	3.9			
8/18/51	69							37	63	
8/20/51	35							40		
11/5/51	32		6.9	4.1/2.8	neg.	9				333
5/26/52	59	2.9	9.5	5.2/4.3	2+	14	5.0	44	90	
8/6/52		5.1						10 meq.		

Na on 5/26/52 133, on 8/6/52 was 134.
K on 5/26/52 4.0, on 8/6/52 3.5.

Miscellaneous

7/31/51 Concentration and dilution test 1.025 and 1.002.
8/11/51 PSP 1 hr. no dye—50 cc. urine
2 hr. 20% dye—75 cc. urine
Total 2 hr 20% dye—125 cc. urine

Mazzini neg. on each admission.

Case presented from the wards of the Fourth Medical Division, Bellevue Hospital, Dr. Charles Wilkinson, Dir.

Write your own clinical impression or formulation here, if you wish.

Pathological Findings

At necropsy there was a widespread process of arterial and arteriolar sclerosis. In addition, necrotizing arteritis was found in the adrenal and kidney. This lesion is sometimes classified as "hypertensive periarteritis nodosa" (1). Much of the vascular sclerosis seen in other organs may represent healed endoarteritis of similar variety: The occurrence of concentrically arranged laminae of fibrous tissue in the intima, focal fibrosis of the media and deposition of hermosiderin in relation to some of these vessels suggests that the process is more complicated than in simple sclerosis. *Arteriolar nephrosclerosis with necrotizing arteriolitis* was the basis of the rapidly progressive uremia.

The heart was markedly hypertrophied. No areas of gross infarction were present, although there was some minor replacement fibrosis of myocardium in the papillary muscles. Nor were evidences of old duodenal ulceration demonstrated although sought for.

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PATIENT M.F.

This was the 1st BVH admission of M.F., a 70-year-old Italian male who was admitted to the surgical service on 10/5/52 complaining of inability to eat and mild abdominal pain. He was vague and gave an unreliable history.

Present Illness: 4 months PTA. Pt. noted mild epigastric distress and considerable weight loss.

2 months PTA, his personal physician told him a tumor of the stomach should be excised surgically. Weight loss became accelerated and vomiting of nearly all food was noted. Weakness increased until at time of admission, he was barely able to walk. There was no hematemesis, melena, jaundice, bloody stool, or severe abdominal pain.

Family History Non-contributory.

Past History *7 years PTA,* leg ulcers had been treated surgically in Beekman Hospital.

Loss of memory, 2 flight dyspnea, 1-3x nocturia had been present for indefinite time.

Admission Px T — 98.6 R — 20 P — 88 BP 128/68

The patient was a thin, emaciated, elderly white male who appeared to be chronically but not acutely ill.

Skin: loose, atrophic, evident weight loss and dehydration.

Lymph nodes: small inguinal nodes, nontender.

Head: not remarkable.

EENT: edentulous, pharynx clear, EOM intact, pupils react to L&A.

Neck: no masses, tenderness, trachea midline, thyroid not palpable.

Thorax: Emphysematous. Lungs clear to P&A.

Heart: PMI 5th ICS at MCL. NSR with no murmurs.

Abdomen: soft, nontender. Liver one f.b. below CM; edge felt hard and nodular. An epigastric mass the size of an orange was palpated. Bowel sounds were noted.

Genitalia: normal male.

Rectal: prostate not enlarged but contained one hard nodule to left of midline.

Extremities: legs were swollen, indurated, erythematous and edematous with several small ulcers.

Neurological: DTR's equal and active. No pathological reflexes.

Course in Hospital Patient afebrile for first 12 hospital days. Gastric analysis revealed free acid after histamine. X-rays of stomach and duodenum were negative. By 9th day, patient was complaining of con-

stant epigastric distress with pain radiating to symphysis pubis and inability to retain any food-liquid or otherwise. 300 cc. of milk were passed into the stomach by Levin tube. 2½ hours later, aspiration of stomach contents yielded only 20 cc. He was then started on 3000 cc. a day of Parker diet by polyethylene tube and i.v. fluids. On the 13th day, he vomited a small quantity of dark brown fluid which was guaiac positive. A fecal impaction was removed. Temperature rose to 101 by 14th day and 102 on 17th and 18th days. Dehydration was present. Penicillin was started and streptomycin added. Temperature was normal by 20th day and remained so for duration of the course. Eesophogram was neg. and repeated barium enemas were unsatisfactory because patient could not retain barium. Because of slow decline in Hgb., two pints of blood were required.

Proctoscopy revealed sessile polyp on anterior wall 5" above anus. It was covered by granular, friable mucosa which bled easily. A biopsy was taken. No other abnormality was found on proctoscopy.

On 24th day, the biopsy was reported as adenomatous polyp and the pathologist recommended repeat proctoscopy to biopsy mucosa above polyp. This was performed as suggested on 33rd day.

On the 37th day, medical consultant reviewed chart. He found patient retaining little food, vomiting coffee-ground material positive for blood, incontinent of feces, anemic with low albumin, globulin and cholesterol. Patient gave no symptoms and said, "I feel all right." Medical consultant noted PVC's. Patient was confused. Abdomen was slightly distended but liver edge could not be palpated. Repeated transfusions and exploratory laparotomy were advised but patient expired quietly on 39th day.

Laboratory Data

Urine

Date	Cath.	Color	pH	Alb.	Sug.	Acet.	wbc.	rbc.	other
10/5/52	No	Cloudy	acid	tr.	0	0	occ.	0	Amorph PO_4
10/20/52		Yellow		tr.	0		0	0	

Blood

Date	Hgb.	wbc.	Hct.	Mazzini	Stool for blood
10/5/52	11.0	6,700	2890	neg.	neg.
10/13/52			24.4		
10/20/52			24.0		
10/22/52	9.0	7,500	25		
11/10/52			24.0		

Blood Chemistries

Date	BUN.	CO_2 vol. % Cl	A/G	Chol/ esters	II	Alk. P'tase	Acid P'tase	Meq Na	Meq K
10/6/52	176	64/ /90	2.2/ /19					129	3.9
10/8/52	154	64/ /895						136	4.0
10/10/52			2.32/ /1.96	138/ /99.5	6	2.4			
10/17/52	270	60/ /89						127	4.5
11/3/52	78	27/ /95meq				2.4	0.37	134	4.0
11/10/52	228	61.3 vol. % 90.5						142	4.0

Case presented from the wards of the Fourth Medical Division, Bellevue Hospital, Dr. Charles Wilkinson, Dir.

Write your own clinical impression or formulation here, if you wish.

Pathological Findings

A large *carcinoma of the stomach* was found to infiltrate the fundus, cardia and much of its body. It produced much mucin and extended into the mucosa of the distal third of the esophagus. Widespread metastases to the peritoneum, lymph nodes, myocardium have taken place. The persistence of a degree of acid production by the stomach must be attributed to some sparing of the mucosa of the body.

The rectal polyp was not an ordinary adenomatous one but had a villous character, and was therefore classified as a *papillary adenoma of the rectum*. Although this tumor has strong cancerous potentialities (1), no local invasiveness was found at necropsy.

An incidental finding was a moderately well developed degree of *ankylosing spondylitis*. Although this had not been diagnosed clinically, roentgenograms of the thoracic spines leave no doubt in this respect. In retrospect, the ward officer recalled that the patient had difficulty in rising from bed, but was able to walk fairly well when helped to his feet. An unusual feature was the coexistance of several osteophytes and relative sparing of the sacro-iliac joints. Fusion of one of the commissures of the aortic valve was present. This is the result of organization (2) of *non-bacterial thrombotic endocarditis* of this valve. There is no evidence of rhermatic inflammation although there is some reason to believe that rheumatic heart disease is found with greater frequency in patients with rheumatoid arthritis than in the general population (3).

Extensive bizarre pigmentation of the wall of the small and large intestine was found. The muscle cells and large numbers of phlogocytes contained brown pigment that did not give a positive reaction for iron or ceroid for the most part. Its nature is not known—perhaps it is hemofuscin.

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PATIENT E.T.

This 63-year-old white female, E.T., had over 15 BVH admissions for a variety of complaints. Records of all but five admissions are not available. Her final admission was to the medical service for RUQ pain of 20 years duration but worse for one month.

Personal and Past History The patient was separated for many years, cast out by her children and unable to maintain herself in her janitor's job steadily. History was exceedingly unreliable and varied with each admission.

She gave a history of influenza in 1919 followed by frequent respiratory infections accompanied by asthmatic attacks which were non-seasonal. There was no allergy history except for "hay-fever."

She had a severe sore throat in 1925 which her personal physician diagnosed as diptheria. Tonsils were tremendously swollen and breathing was partly obstructed. She was hospitalized in BVH in 1925 and again in 1927 for "heart trouble" which was first diagnosed during the 1925 admission. Since then she has had many admissions to BVH and other city hospitals. Her complaints were often noted to increase when hospital discharge was contemplated.

Gallbladder was removed in 1947 at Gouverneur Hospital following a long history of mid-epigastric and RUQ pain on awakening in A.M., fatty food inholerance, and relief of pain by food (?). Symptoms continued following operation.

Retrograde pyelograms were done in 1945 at Gouverneur Hospital for bilateral flank pain.

1st Admission (for which chart available) 1-23-44 to 1-27-44:

Patient entered with the c.c. of "shortness of breath, wheezing, and choking." She had been attending cardiac clinics at BVH for 19 yrs., had moderate dyspnea, 2-pillow orthopnea and occasional ankle edema. Dyspnea and asthma were worse during periods of URI. Had occasional swelling of left knee and aches in left knee and shoulder.

Physical Examination T 99.4, P 96, BP 160 over 85, R 34.

Pt was an extremely obese, anxious, elderly white female with asthmatic breathing and with slight cyanosis. Lungs were hyperresonant at apices. There were asthmatic wheezes which disappeared following epinephrin; rales at both posterior bases extended to left 7th rib. Heart was enlarged transversely. P2>A2, NSR with frequent PVC's. There was a moderately soft apical systolic murmur and a short apical pre-systolic murmur. No ankle edema. Abdomen obese but otherwise negative.

Course Chest x-ray showed bronchitis or bronchiectatic changes lower halves both lungs. Pt responded to adrenalin, KI, ephedrine and was discharged on the 4th hospital day.

2nd Admission (for which chart available) 10-12-48 to 11-8-48:

Pt entered hospital following attack of severe, squeezing, sub-sternal chest pain of 6 or 7 hrs. duration. She had been treated in clinic for several months for similar attacks which were worse on exertion, were relieved by rest or by nitroglycerin. She also had been on ephedrine for asthma, and mercurials. She had 1 flt dyspnea and two-pillow orthopnea.

Physical Examination T 99.6, P 88 irregular, R 24, BP 155 over 95.

Physical findings were similar to above with additional notations of grossly irregular heart rhythm, PMI 15 cm. from MSL in 5th ICS, ml>M2, M1 snapping. P2>A2, A2 rough, a long rumbling distolic murmur at apex, a short apical systolic murmur with thrill. Liver edge was two fbths down and moderate RUQ tenderness was present.

Course Patient was given nitroglycerin, sedatives, weight reducing diet and discharged home. EKG was within normal limits.

3rd Admission (for which chart available) 12-20-49 to 12-27-49:

Patient was admitted to medical service with multiple aches and pains of eight weeks duration following an attack of "bronchitis." She also had epigastric pain 20 min. after meals associated with nausea, vomiting, retching and constipation.

Px. was similar to that of previous admission except that she was fibrillating at a rate of 42 per minute. P2>A2. There was a soft apical systolic murmur and a soft apical presystolic (?) murmur. BP was 114 over 80, lungs were clear. There was moderate epigastric and RUQ tenderness.

Course EKG showed changes of subendocardial ischemia. Digitalis was cut and penicillin given. By the 8th hospital day, her cardiac rate was 100 and she was discharged to clinic without further evaluation of cardiac status.

4th Admission (for which chart available) 7-11-51 to 8-21-51:

Patient was admitted to the urological service with a six months history of intermittent hematuria, pyuria, low back pain bilaterally. Urine on admission was packed with wbc's and four days later with rbc's. Physical findings were similar to those on previous admission. She was afebrile throughout the hospital course. Urological work-up disclosed chronic cystitis and probable pyelonephritis. She was treated with antibiotics and discharged to clinic although she still complained of back pain.

5th Admission (for which chart avail-

able) 7-22-52 to 8-31-52 (died):

Patient was admitted to medical service complaining of "terrible pain" in RUQ for one month but similar to pain she had for 20 years in milder form. She had not taken digitalis in four months because "heart didn't bother me."

Px was similar to previous admission except that no murmurs were heard. She was fibrillating with ventricular rate of 40 and pulse deficit. There was RUQ tenderness. BP was 150 over 90.

Course Pt ran temperature averaging 101 during entire course. EKG's showed auricular flutter with varying degrees of block. She was digitalized. Quinidine was then administered for one week resulting in conversion to AF with ventricular rate of 110. No other signs of CHF were present. X-ray of stomach disclosed filling defect in antrum.

Because of continuous abdominal pain —mostly in RUQ, a secretin duodenal drainage was performed. This disclosed reduction of amylase content which was interpreted as evidence of mild pancreatic insufficiency or questionable common duct stone. An exploratory laparotomy was performed. Following operation, she went into shock. On 3rd P.O. day, emergency bronchoscopy was performed. A heavy mucous plug was removed. This was thought to have caused atelectasis of RLL. Temperature rose to 105. Bilateral extensive atelectasis became evident clinically without signs of CHF. On the afternoon of 3rd P.O. day, pulse and BP were not obtainable and patient expired on 4th P.O. day.

Laboratory Data

Urine

Date	Cath.	Color	S G.	pH	Alb.	Sug.	Wbc.	Rbc.	Other
10/13/48	no	yel. cl.	1.028	ac.		0	2-5	rare	1 gram cast
1/23/44	no	yel.	1.020		vft	0	few		
12/22/49	no	cl.	1.030	5.5	tr.	tr	occ		
7/11/51	yes	cl. yel.			0	back.	2-3	occas. yeast	
7/15/51	yes	cl. yel.			0	5-10	pack.		
8/4/52	yes	straw	1.024	ac.	0	0	0	0	

Blood

Date	Hgb.	Rbc.	Wbc.	Tr.	P	L	M	E.	B	ESR	Hct.	Platlets
1/24/44	16.0	5.5	9,050		50	50						
10/13/48	15.5		8,050		72	28						
12/23/49	15.0	5.7	5,400	5	58	30	5	2				
7/14/51		4.9										
7/24/52	16.0	6.46	10,750	15	59	30		1		15	51%	
7/29/52	16.0	5.67	5,450	4	69	25	1		1	18	52%	183,000

Blood Chemistries

Date	Sug.	BUN	A/G	Chol/Esters	I.I.	CFT	P'se	Creat.	lase	P	time
10/13/48		14	5.3/2.9		8	0	7.5	1.1	60	2.9	
7/23/52	53										
8/11/52	128			156/115							
8/19/52				199/121			6.83				12.3 second

Miscellaneous

Mazzini negative on each admission.

Stool guaiac negative on 7/23/52.

Gastric Analysis: 7/24/52—no free acid before or after histamine.

Blood Culture 7/23/52—positive for Staph. albus and E. Coli.

Circulation Times on 10/12/48 20 secs., on 7/28/52 30 secs.

Venous pressures on 10/12/48—150 mm (twice)

Secretion duodenal drainage 8/16/52 (80 minutes):
Volume: Pre. 6 cc.
0-80 min—125 cc. (normal 90-260 cc.).
HCO_3: Pre. 4.1 meq/L
0-20 min.—159 mEq/L (Normal 90-210 mEq/L)
Amylase: Pre. 58.4 units
0-20 min—187.9 units
20-80 min—127.8 units (normal 275-1100 units)

Case presented from the wards of the Fourth Medical Division, Bellevue Hospital, Dr. Charles Wilkinson, Dir.

Write your own clinical impression here, if you wish.

Pathological Findings

The principal anatomical findings involved at least 2 organ systems:

1. A *prepyloric, adenomatous polyp* was excised during laparotomy. It was pedunculated and insofar as it might cause intermittent gastric obstruction, may have caused the abdominal distress.[1]

2. Independent of this was well developed, *rheumatic heart disease.* Although there was a relatively mild degree of mitral stenosis, extensive *thrombosis of the left auricle* was present. Only minor evidences of congestive heart failure were observed. The thrombus undoubtedly interfered with the filling of the left side of the heart and contributed to the circulatory collapse following gastrotomy.[2] It has been suggested that such thrombosis may cause the usual murmurs of mitral stenosis to disappear.[3]

Depressed broad scars were found in the right kidney. Their gross appearance suggested healed pyelonephritis. Although one cannot be sure of this, we are inclined, however, to regard them the result of healed infarction in view of 1) finding organized thrombus material in the regional arteries and 2) the paucity of the inflammatory exudate and changes of "thyroidization." The infarcts, if such they be, are of long standing and antedate the recent medication with quinidine. Many investigators[4] currently do not regard quinidine to be contraindicated in cases of chronic auricular fibrillation with auricular thrombosis. There is no evidence, in the present instance, that this therapy gave rise to embolism.

The chronic hyperglobulia and elevation of the blood concentration of hemoglobin suggest a possibility of polycythemia vera. Thrombosis is a frequent complication of polycythemia. In such a circumstance the number of circulating platelets is elevated. The absence of such elevation and the absence of splenomealy militate against such a diagnosis.

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4. E. H. Yount, M. Rosenblum and R. L. McMillan. Use of Quinidine in Treatment of Chronic Auricular Fibrillation. Arch. Int. Med. 89, 63, 1952.

Tumors of the Lip

Tumors of the lip are common, and since they can be easily seen, they should be diagnosed readily. However, they are frequently mis-diagnosed or neglected. It is for this reason that a review of a few of the more common lesions seems warranted.

Mucocele Mucoceles are retention cysts of mucous glands within the mouth. They are seen on the inner surface of the lips and cheeks at the line of occlusion of the teeth. The most common site is the lower lip, where the cyst presents as a soft, smooth, rounded swelling which may be slightly bluish (Figure 1). Its size may change, if it periodically discharges its contents into the mouth. Because it causes a thickening and protrusion of the lip, it is frequently bitten, and for this reason it may be annoying. It is painless, and practically never becomes infected. The indications for treatment are inconvenience and disfigurement.

Three methods of treatment have been recommended: excision, marsupialization, and injection. **1. Excision** (Figure 2). After cleansing and draping the lip, the tissue around and under the swelling is infiltrated with procaine. With aseptic technic, an elliptical incision is made over the lesion, perpendicular to the lip margin. This is carried through the mucosa, down to the cyst wall, which is recognized as a thin, glistening white membrane. With sharp and blunt dissection the cyst is enucleated from its bed. This can ordinarily be done without rupturing the cyst. However, if the cyst is ruptured, the thick tenaceous mucus contents should be wiped away, and the dissection continued, so that the entire cyst wall is removed. Bleeding is usually minimal, and can be controlled by pressure, followed by careful approximation of the wound edges by interrupted silk sutures, which are left in place for five to seven days. A spurting bleeder should be ligated with fine catgut. A liquid diet and minimal talking are advisable for a few days. **2. Marsupialization.** The dome of the cyst and the mucosa overlying it are removed, laying open the cyst's epithelial lining on the surface of the lip. A running suture is used to approximate the edge of the cyst and the edge of the mucosa. **3. Injection.** Aspiration of the mucocele's contents followed by injection of a sclerosing

Fig. 1. Mucocele of lower lip

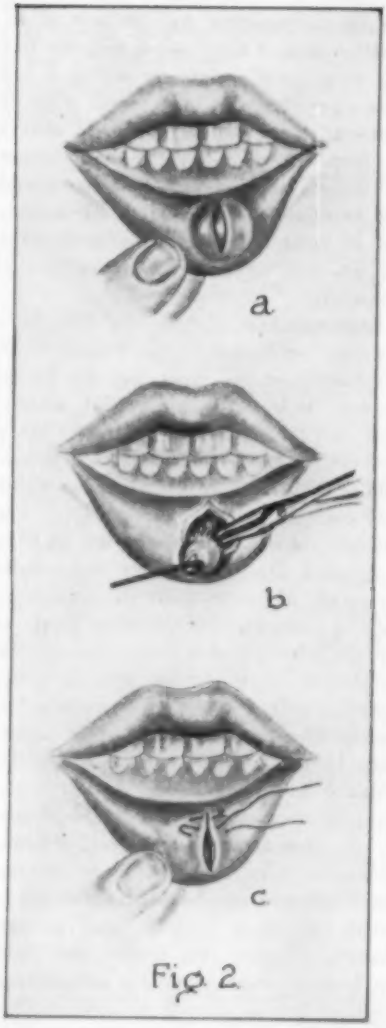

Fig. 2. Excision of mucocele
a. Elliptical incision in mucosa
b. Cyst dissected out
c. Suture of wound

agent has been successfully used by some surgeons. Of the three methods of treatment, excision is the method of choice. Recurrence of the mucocoele is not uncommon, especially when marsupialization is the method used.

Papillomas and Fibromas The mucosal surface of the lip, just within the vermilion border, is a common site for papillomas and fibromas. These lesions present as slightly firm, raised, smooth, non-tender masses (Figure 3). Excision under local anesthesia by elliptical incision and primary closure is advisable.

Angiomas Both hemangiomas and lymphangiomas are frequently seen on the lips of children and adults, usually on the outer (skin) side, but frequently involving the entire thickness of the lips. The hemangiomas are more common, and the lesions are more frequently seen in females than in males. They are blue or purple lesions, flat or raised, variable in size and shape (Figure 4). They are soft and compressible, and pressure at least partially obliterates the blue color. The indications for treatment are disfigurement, and the danger of trauma causing hemorrhage. Excision is the treatment of choice if the lesion is small. Carbon dioxide snow ("dry ice") is frequently effective in obliterating small capillary hemangiomata. Injection therapy (sclerosing agents) has been recommended in the treatment of cavernous hemangiomata, but the danger of extension of thrombosis, scarring, and/or slough of the skin precludes its use in this area. Irradiation (radon, etc.) has been effectively used in the treatment of large raised lesions that are not amenable to other forms of therapy. Tattooing of the subdermal and dermal varieties of flat hemangiomata ("port-wine stains") has proven very satisfactory in many cases. This treatment requires a highly trained technician, experienced in the mixture of pigments, familiar with aseptic technic, and possessing considerable patience and persistence.

Hypertrophy of Lips and Ulcers from Dentures (Figure 5) Ill-fitting dentures, in edentulous patients whose alveolar ridges have undergone resorption, often cause hypertrophy and ulceration of the mucosa of the lip. These ulcers are frequently mistaken for carcinomata, but

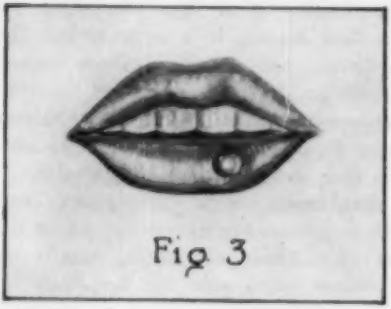

Fig. 3. Papilloma of lower lip

Fig. 4. Hemangioma of lower lip

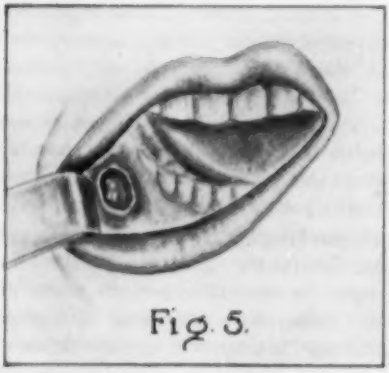

Fig. 5. Dental plate ulcer of buccal mucosa

can be distinguished by the lack of induration around their edges, and the fact that they usually clear up within a few days after the offending dental plate is removed. Persistent ulcers should always be biopsied, and hypertrophic mucosa which does not resorb should be excised and examined histologically. Recurrence can be prevented by either trimming the old plate or providing new dentures if necessary.

Leukoplakia (Figure 6) This is a common lesion, seen most frequently on the mucosa of the lower lip, the buccal mucosa, and/or the gingiva of middle-aged or elderly males who are heavy smokers, especially pipe smokers. It consists of slightly raised white patches which are neither painful nor tender. The patches are usually smooth, but may be rough and fissured, and are occasionally ulcerated. Microscopically the lesion consists of overgrowth of the outer layers of the epithelium, and a heavy lymphocytic infiltration of the sub-epithelial tissue. This lesion is definitely precancerous, and warrants prompt attention. The patient must be made to give up smoking; this measure alone frequently brings about disappearance of the lesion. If the plaques do not show signs of disappearing within about ten days, they should be excised. Small plaques can be easily removed by simple elliptical excision and primary closure. Plaques that involve the entire lip, however, require excision and advancement of buccal mucosa to close the defect. This should not be atempted in the office. The patient should be advised that the lesion is precancerous, and that resumption of smoking may very well cause a recurrence.

Senile Keratosis and Bowen's Disease (Carcinoma in Situ) (Figure 7) The lip is a common site for senile keratosis, which is noted as a slightly raised, erythematous scaling lesion, which bleeds when the scale or crust is pulled off. It is definitely a precancerous lesion.

Another lesion frequently indistinguishable grossly from keratosis is carcinoma-in-situ (Bowen's Disease), which is actually a very early localized stage of epidermoid carcinoma. The treatment of these lesions is total excision with a margin of normal tissue. If the lesion is small, it should be entirely removed for biopsy. If it is large, hospitalization is advisable for treatment.

Fig. 6. Leukoplakia

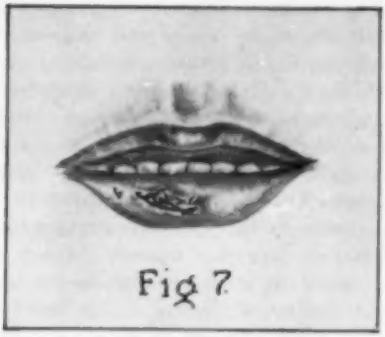

Fig. 7. Senile keratosis

Fig. 8. Epidermoid carcinoma

It is of the utmost importance that all persistent ulcers, nodules, and scaling lesions of the lip be biopsied promptly, and examined histologically. In this way many cancers and precancerous lesions will be recognized early enough to effect true cures.

Epidermoid Carcinoma of the Lip

This is the most common type of cancer of the lip, and may arise from the skin of the outer surface of the lip, or from the mucous membrane of the inner surface of the vermilion. It usually arises from the epithelium of the vermilion. It is more common in men than in women, and on the lower lip than the upper. It has been estimated that in at least 50% of the patients it arises from a pre-existing premalignant lesion (leukoplakia, Bowen's Disease, senile keratosis, etc.). Most patients are in the older age groups, but 3% of the patients in one large series were under thirty years of age. In most cases the grade of malignancy is low; this is one of the factors that makes this lesion the most successfully treated cancer of the alimentary tract. The five year survival rate for lesions without demonstrable metastasis at the time of treatment is about 80% in most series; with metastases, the rate is about 45 to 50%.

The lesion is usually first noted as a nodule, or as an ulcer with an indurated edge (Figure 9). Growth is usually relatively slow, but is progressive. Bleeding and pain are common symptoms. The submental and submaxillary lymph nodes should be palpated at the time of examination. Differential diagnosis should include lues and tuberculosis. Chancre is a clean, hard ulcer which is painless. Darkfield examination may be positive; serology usually is. Gummata are usually multiple. Tuberculous ulceration is an

Fig. 9. Biopsy of lip lesion (carcinoma)
a. Local anesthesia
b. Wedge biopsy, including normal tissue
c. Suture of wound

irregular lesion which is occasionally seen in patients with pulmonary tuberculosis.

Biopsy is an extremely important diagnostic aid. This can be easily performed under local anesthesia (Figure 9). The wedge of tissue removed should include adjacent normal tissue as well as tumor. Prompt histological diagnosis is essential.

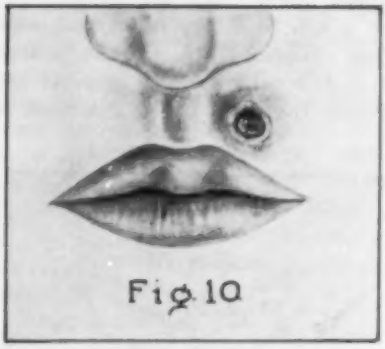

Fig. 10. Basal cell carcinoma of upper lip

The treatment of choice of epidermoid carcinoma of the lip is total excision of the lesion with a generous margin of normal tissue. Many surgeons recommend that a suprahyoid neck dissection should be carried out as soon as the wound of the excision is healed, and that this be followed by a radical neck dissection if the nodes in the specimen are positive. It is important that curative therapy of this lesion be attempted only in the hospital. Radiation therapy of this lesion is useful as an adjuvant in some cases, but surgical therapy should receive the first consideration in the early lesion.

Basal Cell Carcinoma of the Lip (Figure 10) Basal cell tumors may arise in the skin of the lip. They are nodular lesions, commonly ulcerated, with pearly edges. The rate of growth is usually slow. Biopsy is important. Small lesions should be removed in toto with a margin of normal tissue on all sides, and the wound closed primarily. Larger lesions should be treated in the hospital.

EDITORIALS

The Fate of Old Prescriptions

Will the same thing happen to the "miracle drugs" of today that has happened to the miracle drugs of yesterday? The old drugs were miracle drugs too, in the sense that they possessed magical properties in the minds of their recipients. After all, which is the more potent, magic or antibiotic therapy?

What do we mean by magic? We mean that the faith reposed in the prescription-writing physician of say, three generations ago, was therapeutically magnificent. It was a matter of that physician's personality.

The "miracle drugs" are materialistic weapons; magic is at an opposite pole, but not to be underestimated or written off as metaphysical in the bad sense.

What of the future? Will the miracle drugs be forgotten in another generation, to be supplanted by the products of a new school of Olympian medical geniuses? The supplanting process can be witnessed even now in the partial eclipse of the sulfas by the antibiotics.

In the mean time we must recapture some of the old psychosomatic magic and combine it with the antibiotics.

All prescriptions become old some day, and obsolete; that is their invariable fate.

The True Art of Medicine

There have always been individual general practitioners whose personalities alone have achieved marvelous psychosomatic results; this has been a basic endowment supplemented by whatever actual skills might be possessed by such individuals (flower of the profession). What President Garfield said in 1871 about teachers in the course of an address before Williams College alumni applies to the special type of general practitioner we have observed in action over many years: "I am not willing that this discussion should close without mention of a true teacher. Give me a log hut, with only a simple bench, Mark Hopkins on one end and I on the other, and you may have all the buildings, apparatus and libraries without him."

Simple test—No matter what is the matter with him, the patient feels better (and is better) when the doctor diffusing the right psychosomatic aura appears.

Mysticism? No, realism. Heresy? No, science and sanity.

Starvation and Social Pathology

We learn from the Medical Geography Department of the American Geographical Society that two-thirds of the human race has a deficient diet. Its study in human starvation was sponsored by the Office of Naval Research.

The partially starved peoples of the world subsist on diets lacking in energy and protective values, as well as in tissue-repairing values.

The blame is placed on various factors —population densities, faulty distribution,

inability to buy, wastage, social and economic patterns, religious and cultural taboos, land tenure and inefficient farming methods.

Good nutrition being basic in all our endeavors to promote the health of humanity, much of our effort is cancelled out by this fundamental handicap.

Meanwhile political as well as medical diseases of starvation flourish.

Malthusian Dilemma

The Population Reference Bureau of Washington, D. C., estimates that the population of the United States will reach 190,000,000 by 1975; present population is about 160,000,000.

These figures are the more alarming when it is realized that along with the numerical increase there will be ever-increasing demands for a higher standard of living. This means exhaustion of soil, timber and minerals, including oil, coal and natural gas, its rate dependent upon whether or not there is a major war.

Much depends upon the trapping of atomic and solar energy.

The experts are not very optimistic, since the dissipation of resources is proceeding at a suicidal rate and the birth rate is spiraling at the rate of 300 persons an hour.

Don't Scratch That Itch!

Itching may be caused by anything from dandruff to diabetes, and it can spread or camouflage real trouble if you scratch, according to Dr. Joseph D. Wassersug, Quincy, Mass.

"Doctors may disagree on many points regarding the nature or treatment of itching skin diseases," Dr. Wassersug wrote in *Today's Health*, "but on one point they are unanimous. Don't scratch!

"They are also pretty much in agreement that most drug store medicines are worse than none at all. In the great majority of cases, these ointments and lotions are too harsh. Literally, they add insult to injury. As a matter of fact, in at least half of the cases of itching the causative factor is not a skin disease but a general medical problem."

Dr. Wassersug divided itching into two classes — that with local causes and that with general causes. Local causes include such things as insect bites and pinworms; vegetable irritants such as poison ivy, burrs, nettles, plant juices, pollens and many drugs and medicines derived from vegetable sources; mechanical irritants such as scratching, rubbing and windburn; extremes of temperature and all sorts of chemical irritants. Even body secretions may cause local irritation.

"General causes of itching are of greater significance," he stated. "A patient with generalized itching but no skin rash may have a general disease such as diabetes, a tumor, Hodgkin's disease or leukemia. At times, allergic factors are responsible, and, itching is associated with menopause.

"A great many cases of itching skin are due to nervous disorders of one sort or another. It has been definitely found that emotional stress produces itching in some people. The symptoms tend to appear in times of unusual worry or annoyance, particularly if the feelings are repressed. Of the various emotions that can cause itching, the worst is resentment. The psychiatrists say that scratching the affected area may provide satisfaction for thwarted desires or self-punishment for guilty thoughts or deeds."

OTOLOGY

L. CHESTER McHENRY, M.D., F.A.C.S.*

Anhydrous Furacin Solution in the Treatment of Chronic Suppurative Otitis

J. C. Peele (*Laryngoscope*, 63:488, June 1953) reports a study of 145 patients with chronic suppurative to its media, including 8 with a chronic draining radical mastoid cavity; as both ears were involved in 22 cases, there was a total of 167 chronic discharging ears in this series. Most of these patients attributed the chronic aural discharge to recurrent acute abscess in the ear. In most of these cases the aural discharge was mucopurulent, and occurred intermittently and in varying amounts. In most of these cases some loss of hearing was noted. Complete hearing tests were made on 74 patients with 88 chronic discharging ears; the results of these tests showed a mixed deafness in 77 ears, nerve deafness in 6 ears, and normal hearing in 3 ears; one patient with bilateral cholesteatoma showed loss of hearing in both ears. A study of the perforation of the tympanic membrane was made in 153 ears with chronic discharge; the perforation was classified as anterior central in 16 ears; inferior central and posterior central in 33 ears each; posterior-superior in 7 ears; posterior-superior marginal in 17 ears; anterior superior marginal in one ear; posterior marginal in 8 and inferior marginal in 2 ears; there were 11 attic perforations. In 10 ears the tympanic membrane was totally destroyed and in 16 ears only "a rim" of the membrane remained. Anhydrous Furacin solution was employed in the treatment of 55 of the patients in this series who reported regularly about every week; there were 65 discharging ears in this group. In these cases, patients were instructed to clean the involved ear with a dry wipe, or suction with a medicine dropper, and then instil the Furacin solution into the ear, while lying down with this ear uppermost; this position was maintained for fifteen minutes; then a cotton tampon was inserted into the ear and left in place for at least one hour; treatments were given in this way three times a day. Office treatments given at "approximately weekly intervals" included removal of large granulations with a snare, and small granulations were treated with trichloracetic acid when this was used to close the tympanic membrane. After cleaning the ear, with special attention to removal of the exudate from the margin of the perforation, and drying with compressed air, a 50 per cent solution of trichloracetic acid was applied to the edge of the perforation and surrounding tympanic membrane for about 1 mm. In the 55 patients treated with Furacin (and the office applications of trichloracetic acid), there were 34 patients with 40 discharging ears in whom the ear became dry and the perforation healed; in this group these results were obtained with only one course of Furacin treatment

McHenry

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(continued for two weeks after the ear discharge ceased); 5 other ears healed after the second course of Furacin; some other method of treatment was required for the other 5 ears. In 11 patients with 15 discharging ears, the ear discharge ceased, but the perforation did not heal; this result was obtained with the first course of Furacin treatment in 6 ears, and with the second course in 3 ears; other methods of treatment were used in the remaining 2 ears. In 10 patients with unilateral involvement, neither Furacin nor other methods of treatment employed resulted in a dry ear or healing of the perforation.

COMMENT

Furacin is another useful antibacterial agent in the treatment of infection. We question whether it has any more virtues in the treatment of chronic suppurative otitis than a number of other agents. However, the other features of the treatment used along with the Furacin are of very considerable importance and if used persistently will eventuate in good results in a high percentage of cases.

L. C. McH.

A Modern Therapeutic Regimen for Otitis Externa

J. W. McLaurin (*Eye, Ear, Nose and Throat Monthly*, 32:319, June 1953) has found in his experience that each patient with otitis externa "must be treated on an individual basis." In otitis externa relief of pain and cleansing of external auditory canal are important before the use of specific therapy against the infecting organism. A treatment with a small dose of x-rays, using a small cone, is often effective in relieving pain; treatment may be repeated if the first application gives relief, but multiple treatments are not indicated if there is no response to the first treatment. A sedative may also be employed. The external auditory canal must be carefully cleaned, preferably by tip suction and cotton wipes dipped in alcohol. If tip suction cannot be used, irrigations followed by careful drying of the ear with alcohol and compressed air (using a DeVilbiss bottle), or by the use of a wick and Burow's solution can be employed. When the ear is well cleansed, the micro-organisms causing the infection should be determined by culture, and the antibiotic or chemotherapeutic agent known to be effective against these micro-organisms should be used for treatment. This agent should be applied in high concentration and in sufficient amount to cover the whole infected area and for at least five minutes at each application; the vehicle in which the specific therapeutic agent is applied must also be carefully selected. If improvement is not seen within forty-eight to seventy-two hours under specific treatment, further cultures and sensitivity tests are necessary. These topical applications should be discontinued when the infection is "under control," and general hygienic measures instituted to restore the auditory canal to its "normal physiologic state" and eliminate predisposing causes of the otitis.

COMMENT

Two points made by the author stand out and are of primary importance. Notice his emphasis of thorough cleansing of the external auditory meatus. The second point is his emphasis that topical application should be discontinued when the infection is under control, i.e., overtreatment can cause continuation of trouble. His comments about the use of antibacterial agents are logical and reasonable.

L. C. McH.

The Identification and Clinical Significance of Large Phagocytes in the Exudates of Acute Otitis Media and Mastoiditis

W. T. K. Bryan (*Laryngoscope*, 63:559, July 1953) reports a study of aural secretions with special reference to the presence of large phagocytes in 227 cases of acute otitis media or mastoiditis. These large phagocytes are best shown by the method of supravital staining used by Sabin for the study of blood cells; but it is not necessary to use this method to demonstrate these cells; Wright's stain can also be employed if the smears are air-dried and not "flamed." The demon-

stration of these "giant" phagocytes was found to be of definite clinical significance in cases of acute otitis media. In 67 of 227 acute cases studied, many giant phagocytes were found in at least one smear; 30, or 43 per cent of these patients, required mastoidectomy and only 18 recovered completely within one month. In 92 cases in which a few giant phagocytes were found in the smear, only 10 patients required mastoidectomy and 63, or 67 per cent, recovered completely within one month. Of the 68 cases in which no giant phagocytes were present in the smear at any time, none of the patients required mastoidectomy and all recovered within a month. In 33 cases of chronic mastoiditis, giant phagocytic cells were not found as a rule; but if an acute infection develops in an ear that is chronically infected, the discharge increases, and the giant phagocytes appear in the discharge if the infection is severe. A study of the cytology of aural secretions, with special reference to giant phagocytes, the author concludes, is of definite value "in evaluating the severity" of cases of acute otitis media and also of aid in the study of the more chronic cases that are "characterized by remissions and infections."

COMMENT

This article needs to be seen in the original to appreciate the large amount of clinical research and careful, meticulous technique which went into the work upon which the article is based. His findings and procedures will be extremely useful in certain cases of ear infection. L. C. McH.

Effects of Cortisone in Chronic Otitis Media

R. C. Tionloc (*A. M. A. Archives of Otolaryngology*, 58:50, July 1953) reports the use of cortisone in the local treatment of chronic otitis media in 14 cases. The solution employed contained 25 mg. cortisone per cc. in an isotonic sodium chloride solution. Patients were instructed to instill the solution into the infected ear, one drop every two hours for two days, then one drop every four hours for four days; no cotton pledget was placed in the ear after such applications. When the patients were examined after this six days' treatment, the same treatment was continued for another four days if there was little or no improvement; and patients were then kept under observation. In 2 cases there was no response to the cortisone treatment; both of these patients later responded well to antibiotics. In 9 cases, the aural secretion diminished in amount and became more mucoid; and the inflammatory reaction diminished; subsequent treatment with antibiotics was necessary to stop the discharge entirely. In 3 cases, the involved ear became dry under treatment with cortisone without any other treatment. The author is of the opinion that while cortisone may in some cases result in healing of the involved tissue and the development of normal resistance to infection, in other cases, its chief effect is to reduce the "inflammatory reaction in the middle ear," so that antibiotics later act directly on the infecting micro-organisms.

COMMENT

We can understand how cortisone locally might reduce edema and swelling of tissues, especially if this swelling was allergic in origin. Otherwise, we see no reason why it should be particularly useful in the treatment of ear infections. L. C. McH.

The Condition of Fluid in the Middle Ear

J. T. King (*Annals of Otology, Rhinology and Laryngology*, 62:496, June 1953) reports a study of 56 cases in children with fluid in the middle ear. In all these cases tonsillectomy and adenoidectomy were done or adenoidectomy alone, and the fluid removed from the middle ear after myringotomy. In 20 cases in which the fluid was thin and serous, no bacteria or eosinophils were found on microscopic examination; in 17 of these cases recovery was complete. When fluid

in the middle ear was thick and viscid, neutrophilic leukocytes were found in large numbers on microscopic examination. Eosinophils or bacteria were found in 18 cases in which thick fluid was removed from the ear. In the cases in which bacteria were found, the findings did not suggest that infection was the primary cause of the middle ear condition, but rather a low-grade secondary infection. In the 9 cases in which eosinophils were found in the fluid from the middle ear, there was a definite allergic rhinitis or asthma in 6 cases. In 2 cases both bacteria and eosinophils were found in the middle ear fluid, suggesting the possibility of "a co-existing allergic and infectious process." The cases in which bacteria were present in the fluid showed a higher percentage of recoveries than those in which eosinophils were present.

COMMENT

It seems that we are able to get better results in treating infections than we can in treating allergies.

L. C. McH.

RHINOLARYNGOLOGY

L. CHESTER McHENRY, M.D., F.A.C.S.*

Intranasal Medication with an Antibiotic-Decongestant Solution

A. M. Lazar and M. Goldin (*Eye, Ear, Nose & Throat Monthly*, 32:512, Sept. 1953) report results with a new form of intranasal medication, used by the patients, either with a plastic "squeeze bottle" or in the form of nasal drops. This new solution Biomydrin is a combination of neomycin, gramicidin, Thonzonium Bromide, an antihistamine (Neohetramine), and a vasoconstrictor (phenylephrine hydrochloride); it is buffered to a pH of 6.2, which is considered most suitable for intranasal medication. If the "squeeze bottle" was used patients were instructed to spray each nostril two or three times (once or twice for children) as necessary up to five or six times a day for adults or four or five times a day for children. If the nose drops were used, five drops were instilled into each nostril every four hours. It was found that patients preferred the spray method, and could employ it more effectively. This method of treatment was employed in various forms of rhinitis, including catarrhal rhinitis, both acute and chronic, atrophic rhinitis, and hypertrophic rhinitis in 124 patients, including a number with nasal sinus involvement; of these 113 patients showed definite improvement in symptoms after a week's treatment and many were "enthusiastic" in regard to the degree of relief obtained. After treatment was discontinued, the improvement was maintained as a rule. In 97 cases nasal cultures were made before treatment and within two days after the medication was stopped. In 38 per cent of these patients the nasal cultures became negative after treatment; the authors state that such sterile cultures "must be considered a transitory condition," but the fact that the cultures remained sterile for as long as two days after Biomydrin was discontinued, indicates that this preparation persists "at the site of its application for prolonged periods of time." This trial of

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Biomydrin leads the authors to conclude that "it will establish itself as a very useful addition to nasal remedial agents."

COMMENT

It has been fairly well established that local medicaments which interfere with the normal action of the mucous blanket on the nasal mucous membrane do harm rather than good. We seriously question whether catarrhal rhinitis, atrophic rhinitis, or hypertrophic rhinitis are caused by multiplication of pathogenic bacteria upon the surface of the nasal mucous membrane. In a very high percentage of patients the use of a vasoconstrictor locally in the nose by either spray or drops four or five times a day for a week will produce a boggy, edematous condition because of rebound swelling. Because of these things we are inclined to disagree with the authors' conclusion.

L. C. McH.

Dramatic Relief of Hay Fever Symptoms with Combined Amphetamine and Amobarbital

Morris Woodrow (*American Practitioner and Digest of Treatment*, 4:441, July 1953) reports the use of a combination of amphetamine and amobarbital (Dexamyl, Smith, Kline and French) in the treatment of hay fever. Each tablet contains 5 mg. d-amphetamine sulfate and 32 mg. amobarbital. The author was himself taking these tablets for the relief of fatigue, and noted that he did not develop symptoms of hay fever in the hay fever season; similar observations were made in 3 of his patients. He then gave the tablets to 22 of his patients, all of whom had had hay fever symptoms for several years. Each adult patient was given 21 tablets, a week's supply with a dosage of 3 tablets daily; 2 children, twelve years of age, were given the elixir form of the drug. At the end of the week 12 of these patients reported "excellent relief"; 6 reported better relief than that obtained with any other treatment, although not complete; 2 patients reported relief during the day, but nasal congestion at night; one reported relief from hay fever symptoms, but stated that the drug made her "nervous"; and only one had no relief. All but the latter 2 patients continued to take the drug throughout the hay fever season, and all 20 patients reported as complete or marked relief as at the end of the first week's treatment. A review of the literature shows that in 1937 through 1944, several authors reported the use of d,l-amphetamine in the treatment of hay fever and other forms of nasal allergy with good results. The author does not attempt to define the mechanism of the action of the combination of drugs employed in hay fever on the basis of this study, but he is convinced that it cannot be attributed entirely to "the well known influence of these drugs on mood."

COMMENT

This combination of a vasoconstrictor and a barbiturate undoubtedly is useful in some of the allergic states. We would expect that the dosage should be individualized in order to give consistent results.

L. C. McH.

Sinusitis as Focus of Infection in Uveitis, Keratitis, and Retrobulbar Neuritis

F. L. Weille and R. R. Young (*A. M. A. Archives of Otolaryngology*, 58:154, Aug. 1953) report a study of 427 cases of uveitis and chorioretinitis, 198 cases of keratitis and 38 cases of retrobulbar neuritis at the Massachusetts Eye and Ear Hospital, with special reference to the importance of sinusitis as a focus of infection in these conditions. In the 427 cases of uveitis and chorioretinitis, there were 187 cases in which "a focus hunt" had been carried out; some focus of infection was found in 91 of these cases. In 22, the x-ray showed some pathology in the paranasal sinuses, and in 24 other cases, there was sinusitis; in most of these cases there was some other possible focus of infection. In 10 cases, the only sinus pathology was antral cysts and in 13 others "simple" thickening of the sinus membranes—conditions which many rhinologists would not consider to be a focus of infection. Seven of these patients had operation on the in-

volved sinus done, but, except in one case, there was no evidence that the operation had influenced the course of the uveitis favorably. In the 198 cases of keratitis, a special "hunt" for foci of infection had been carried out in only 19 cases, and some evidence of sinus involvement had been found in 7 cases, in 6 of which it was the only possible focus of infection; no operation on the involved sinus was done in any of these cases, and the evidence does not indicate that the sinus involvement was of basic importance in the development of the keratitis. In the 38 cases of retrobulbar neuritis in which a search for possible foci of infection was made, there was evidence of sinusitis in 4 cases, and in 2 of these there were other foci of infection; one of these cases, a pansinusitis for which operation was done, was evidently a cause of the retrobulbar neuritis, and also resulted in a "massive infection," that caused death within a week. The authors are of the opinion that in uveitis, if the sinusitis requires treatment "upon its own merits," treatment, either medical or surgical as indicated, should be carried out; but it is only occasionally of value as far as the uveitis is concerned.

COMMENT

We quite agree with the authors that if sinusitis requires treatment upon its own merits, treatment is indicated. Surgical treatment of the sinusitis certainly is indicated **only** under these conditions. L. C. McH.

Rhinoscleroma

P. H. Holinger and associates (*Illinois Medical Journal*, 103:341, June 1953) report 3 cases of rhinoscleroma seen in residents of Illinois; all 3 patients were males of foreign birth, although 2 of them had been living in Illinois for many years. In 2 cases the typical granulomatous tissue was present in the larynx and trachea only without nasal involvement; in one patient the nose was involved. One of these patients died suddenly from acute respiratory obstruction. In the other 2 cases symptoms were relieved by removal of granulomatous tissue and treatment with streptomycin or dihydrostreptomycin. Rhinoscleroma has been considered to be a disease that existed only in Central and Southern Europe; but recently it has been found to be endemic in Mexico and Central America, and occasional cases have been found in various areas in the United States. It should be recognized that laryngeal and tracheal, and even bronchial, involvement may be present without nasal rhinoscleroma, and also that when present with or without nasal rhinoscleroma, such involvement may cause fatal respiratory obstruction; therefore, laryngoscopy and bronchoscopy should be done in all cases of nasal rhinoscleroma. In addition to removal of nasal lesions, endoscopic removal of any tissue obstructing the lower respiratory tract is indicated. This surgical treatment should be supplemented by streptomycin therapy.

COMMENT

An interesting report of another condition which needs to be considered by those who encounter evidences of bronchial or respiratory obstruction. L. C. McH.

Evaluation of a New Spray Device for Intranasal Medication

D. G. Ornston (*Laryngoscope*, 63:739, Aug. 1953) reports a study of a nasal spray bottle (plastic) that can be used more easily by the patient than the usual type of nasal atomizer or usual methods of administration of nose drops. By observing the nasal "coverage" of sulfathiazole crystals when a combination of sulfathiazole and a vasoconstrictor was given with the nasal spray, it was found if the turbinates were shrunken and the common meatus rendered patent by the first application of the spray, another application shortly afterward resulted in the sulfathiazole reaching the olfactory fissure. In a study of 49 patients treated by both the spray and nasal drops, the two meth-

ods were found to be equally effective; 22 of the patients preferred the spray to the use of nose drops, and 19 considered it as effective but not better than the nose drops. X-ray studies with Uroken showed that while the "coverage" was not so good as with nose drops properly applied, it did result in efficient application of the medication. The conclusion is drawn that the nasal spray bottle is "a mechanically efficient device" and that it is of value in the treatment of nasal infections, especially for patients who find it "impossible or inconvenient" to use nasal drops effectively.

COMMENT

Almost any device that delivers the proper medicament to the proper location will suffice so far as local treatment of the nose is concerned. However, this is a plastic age and some of the gadgets that the pharmaceutical houses supply are certainly extremely attractive as well as being mechanically efficient.

L. C. McH.

Neurofibroma of the Larynx

F. A. Figi and D. B. Stark (*Laryngoscope*, 63:652, July 1953) report 5 cases of neurofibroma of the larynx seen at the Mayo Clinic. In 2 of these cases the laryngeal involvement occurred in the course of generalized neurofibromatosis; in both these 2 cases the laryngeal lesions were diffuse. In the other 3 cases there was a single tumor involving a vocal cord or an aryepiglottic fold. A review of the literature and the authors' findings at the Mayo Clinic indicates that neurofibroma of the larynx is of rare occurrence. Symptoms are determined by the localization and size of the tumor; the most common symptoms are hoarseness, dysphagia, a feeling of "something in the throat," dyspnea and stridor. As a rule a single neurofibroma of the larynx is well encapsulated and biopsy is not possible, so that definite diagnosis can be made only after removal and pathological examination of the tumor, in such cases. In cases of generalized neurofibromatosis, the lesion is more diffuse, and in one of the authors' cases of this type, removal of the diffuse tumor was not attempted as it caused no serious symptoms. In cases of single neurofibroma of the larynx, surgical removal is indicated.

COMMENT

These are rare conditions, only about forty cases having been reported in the literature up until this time.

L. C. McH.

College of Medical Evangelists Convention Geared for General Practitioners

A stimulating week of lectures, panel discussions, roundtable luncheon discussions, refresher courses, scientific and technical exhibits, geared primarily to the needs of general practitioners, is being planned for the Alumni Postgraduate Convention in Los Angeles, next February 23 to 25, according to a recent announcement by Dr. William F. Quinn, General Chairman of the Convention's Governing Board.

The three-day convention, sponsored by the Alumni Association of the School of Medicine, College of Medical Evangelists, is open to all physicians regardless of their school affiliation. Last year almost a third of the physician registrants were non-CME men and passed the 3000 mark in total registration.

Medical Book News

Edited by Robert W. Hillman, M.D.

Physiology

Textbook of Physiology. By William D. Zoethout, Ph.D. & W.W. Tuttle, Ph.D. 11th Edition. St. Louis, C. V. Mosby Co., [c. 1952]. 8vo. 692 pages, illustrated. Cloth, $4.75.

This is a revised textbook on physiology which is, as one of the authors comments, half way between the voluminous books and the very brief courses. For the busy practitioner who wants to keep up and maintain his basic knowledge by quickly reading a topic, this book is applicable. It is written simply and to the point.

The practical sides of nutrition, physical exercise, mental work, fatigue have been included. EVERARDO GOYANES

Nutrition

Nutrition and Diet in Health and Disease. By James S. McLester, M.D. & William J. Darby, M.D. 6th Edition. Philadelphia, W. B. Saunders Co., [c. 1952]. 8vo. 710 pages, illustrated. Cloth, $10.00.

The most recent edition of this classic surpasses even its excellent forbears. The collaboration of Dr. Darby in the current volume makes for a comprehensive and beautifully organized treatise on all important aspects of this broad subject. The junior author's responsibility for the first section, on "Nutrition in Health," brings to these basic chapters the resources of the biochemist as well as of the clinician. Part II, on "Nutrition in Disease," includes much new information of practical value, all readily discovered in chapters devoted to specific organ systems and to particular clinical problems. The appendix contains numerous useful tables and sections on food preparation and processing. An excellent index makes this a valuable reference work that should be available to every general physician and specialist. ROBERT W. HILLMAN

Surgery

Textbook of Surgery. Edited by H. F. Moseley, M.Ch. (Oxon). St. Louis, C. V. Mosby Co., [c. 1952]. 4vo. 896 pages illustrated. Cloth. $5.00

In view of the voluminous and ever increasing surgical literature, this work is a timely and serious attempt to appraise those ideas and facts that should be recorded and adopted in clinical practice and to discard the less important ones. The criteria of acceptance or rejection are based on the principles of anatomy, physiology, biochemistry and pathology and when basic fundamentals and principles are thoroughly understood, correct diagnosis and indicated treatment become correspondingly clearer. The work includes the conventional subject matter found in all modern texts in surgery but does not include chapters on ophthalmology, oto-laryngology and gynecology. These subjects are dealt with merely incidentally and only when they may have a bearing on the diagnosis of abdominal conditions. Important approaches to operative treatment are outlined but technical details are properly reserved for works on operative surgery.

The numerous clarifying illustrations and the many fine color plates greatly aid in the reader's understanding and make it possible for the authors to condense descriptive matters correspondingly. Numerous references are designed to facilitate collateral reading. The long list of contributors, each a leader in his field, and all with McGill training, attest the high quality of the book both as to subject matter and diction. The material is presented in logical, interesting and refreshingly brief fashion.

In an interesting foreword, Dr. G. Gavin Miller outlines his thoughts and ideas about training and preparation for the young graduate who wishes to qualify as a finished surgeon.

Perhaps the text will prove to be most valuable to undergraduate medical students and surgical house officers in training. However, the older surgeon should also find it helpful and stimulating. The reviewer regards the book as a worthy contribution. ARTHUR GOETSCH

Hematology

Klinische Haematologie. Ein Grundriss für Studierende und Ärzte. By Prof. Werner W. Siebert. Munich, Urban & Schwarzenberg, [c. 1950]. 8vo. 260 pages, illustrated. Cloth, DM 31.

This book is the result of the author's long experience in lecturing on hematology. It answers all the questions which a physician meets in his practice, and is an excellent introduction for the medical student in the difficult problems of hematology. The author's teaching experience is evident on many occasions. One example of this is found in his statement that Agranulocytosis is not an increase of ungranulated cells as the ending "osis" might imply. In addition to the excellent description of the physiology and pathology of the various entities which compose the blood, and the main sections on diseases of the blood and the techniques of blood examinations, there are two exceptionally useful chapters. One tabulates the most important and characteristic changes of the blood according to blood diseases as well as to numerous other diseases; the other reverses the tabulation. The print is good and the illustrations of great help to diagnosis, particularly for those who are not too experienced in the field. The book can be highly recommended for hospital libraries and individual physicians. MAX G. BERLINER

Psychiatry

Dynamic Psychiatry. By Louis S. London, M.D. In three volumes. Vol. 1, Basic Principles. Vol. 2, Transvestism, Desire for Crippled Women. Vol. 3, Frustrated Women. New York, Corinthian Publications, [c. The Author, 1952]. 8vo. 98 pp., 129 pp., 132 pp., illustrated. Cloth, $2.00, $2.50, $3.00.

Volume One, subtitled *Basic Principles*, comprises a brief but excellent review of the evolution of psychotherapeutics, from prehistoric times to the era of Freud. A chapter gives the author's psychoanalytic interpretation of certain early Hebrew writings on dreams. This volume closes with a brief but excellent account of the development of the libido in relation to Oedipus-Electra complexes and ambivalence and castration complex.

Volume Two, subtitled *Transvestism, Desire for Crippled Women*, is a unique presentation and includes 50 full page reproductions of the drawings of a male transvestite whose analysis is reviewed in the final chapter.

Volume Three, subtitled *Frustrated Women*, is of especial interest in view of the recent publication of the study by the Kinsey Group. It consists of 16 analytic case histories of women with anxiety hysteria, obsessional compulsive ideas, psychosomatic manifestations, and sexual deviations.

This work is recommended for its excellent case material and succinct summaries of the psychodynamics involved in each case. C. MILTON MEEKS

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MEDICAL BOOK NEWS

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Psychiatry

Muscle Relaxation as an Aid to Psychotherapy. By Gerald Garmany, M.B. London, England, The Actinic Press, [1952]. 8vo. 65 pages Cloth, 5/6. (Physical Medicine Series, Vol. I.)

Dr. Garmany has indebted all practicing physicians to him by making available this highly informative treatise on relaxation therapy. Not all psychiatric patients require the involved techniques, be they for the individual or the group, described in this volume. The physiotherapist and the referring physician should decide on the methods. Indications are clearly delineated for the alleviation of varying degrees of mental or nervous tension which frequently is so disturbing as to amount to an illness. Frequently adequate muscle relaxation procedures work wonders for anxious and tense patients. Since psychogenic factors are nearly always at work, as well as environmental stress, psychotherapy should go hand in hand with the physical approach. Indications are clearly formulated. Principles underlying the technique of muscle relaxation should be understood.

The contents comprises eight chapters which succinctly highlight the main facts and factors concerning emotional disturbances, bodily symptoms of anxiety, muscle tension, producing relaxation, modified techniques, indications and difficulties, and psychotherapy. The volume summarizes conclusions and appends a pertinent glossary.

The author has had a wide experience as a lecturer to Westminister School of Physiotherapy, as well as in the Department of Psychiatry in the Westminister Medical School and Hospital. The reader will be more than grateful for the telling light shed on this much neglected aid to psychotherapy.

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SYRACUSE, NEW YORK

1. Bolt, R. J., Bratt, H., and Pollard, H. M., Gastroenterology 24: 204 (June) 1953

MODERN THERAPEUTICS

Isoniazid in Lupus Vulgaris

Isoniazid brought improvement to 14 of 15 cases of chronic lupus vulgaris over a treatment period of nine months. One patient was completely cleared, 4 showed marked improvement, 7 showed moderate improvement, and 2 exhibited only slight improvement, according to Russell, Thorne, and Grange in *The Lancet* [*1*:964(1953)].

The optimum oral dose was found to be 300 mg. daily while the parenteral injection consisted of 100 mg. in 2 cc. of water and was administered once a week. Five of the patients received oral therapy alone, 6 received parenteral therapy, and the rest received both oral and parenteral therapy. The authors concluded that weekly injections were insufficient to produce a maximum response. They warned that, in spite of the impressive results obtained with Isoniazid, it remains as important as in the past to note closely the state of the patient's nutrition and environment and to correct any deficiency which may exist.

Management of Common Pelvic Infections with Oral Penicillin-Sulfonamide

Twenty-seven patients with gynecologic infections of mixed bacterial population were treated with an oral penicillin-sulfonamide preparation (Penicombisul), each tablet of which contains 100,000 units potassium penicillin G and 0.166 Gm. each of sulfacetamide, sulfadiazine, and sulfamerazine. Treatment consisted of an initial dose of 6 tablets followed by 2 tablets every 4 hours for 48 hours and then 2 tablets 4 times a day for an average total treatment period of 5 days. Seventeen of the patients experienced complete clinical cures, according to Penman *et al.* in *Am. J. Obst. Gynecol* [*65*:175(1953)]. There were 3 clinical failures. The authors concluded that it appeared that satisfactory results can be obtained in the treatment of the common pelvic infections with an oral penicillin-triple sulfonamide preparation.

The Stability of Procaine Penicillin G

Vials of procaine penicillin G in peanut or sesame oil and gelled with 2 per cent aluminum monostearate, as Flocillin "96", were stored at a temperature of 22-28 C. for 47-50 months or at 52-56 C. for 7-19 months. The loss in potency of the eleven batch samples stored at room temperature was less than 1 per cent in all but 3. The highest loss was 5.1 per cent in 1 sample. The potency loss of the 20 batch samples stored at 52-56 C. was less than 1 per cent in 13. The highest loss was 13.1 per cent in one sample stored for 12 months.

Buckwalter and Holleran also reported in *Antibiotics & Chemother.* [*3*:578(1953)] that the physical characteristics stood up well. In the samples stored at room temperature the color, viscosity, and syringeability remained essentially unchanged and the material was easily resuspended. In those stored at tropical temperatures, the color changed to brownish yellow but, otherwise, there was no appreciable change in the physical characteristics.

Dextran Proves Satisfactory as Plasma Expander

Dextran proved to be entirely satisfactory in expanding plasma volume in 60 wounded men, according to a report by Amspacher and Curreri in *A.M.A. Arch. Surg.* [*66*:730(1953)]. They pointed out that battle casualties with moderate blood loss can frequently be treated satisfactorily with dextran alone. Where the

—Continued on page 74a

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References: 1. Goldstein, L. S.: Clin. Med. 59:455, 1952.

—Continued from page 72a

blood loss is severe the casualty may be maintained during first aid and transportation to the hospital with dextran. Later, whole blood and crystalline and/or electrolyte solutions must be given. The authors pointed out that there is no substitute for whole blood, but this precious commodity can be conserved by the use of dextran, preserving whole blood for those cases where the severity of the wound and the blood loss so dictate.

The authors reported that dextran did not interfer with cross matching of the blood, the urinary output was satisfactory, and there were no demonstrable side reactions.

Treatment of Rheumatoid Arthritis With Aurothioglycanide

With a recognition of some of the shortcomings of cortisone and ACTH treatment of rheumatoid arthritis, some workers are returning to a further study of the effects of gold compounds. Aurothioglycanide was administered to a selected group of 69 patients with rheumatoid arthritis. The initial weekly dose was 25 to 100 mg. for at least 3 doses. This was then doubled or increased to the maximum of 150 mg. weekly, if there were no toxic indications and no improvement. After 8 to 10 weeks the status of the patient and therapy was reviewed.

Batterman stated in *J.A.M.A.* [*152*:1013 (1953)] that 56 per cent of the patients with stage 1 or 2 (early) arthritis showed complete remission or major improvement at the end of initial therapy. Further improvement was noted in 15 of 17 patients given maintenance therapy. This consisted of 50 to 150 mg. aurothioglycanide every 2-4 weeks. The author pointed out that maintenance gold therapy after initial improvement holds an ex-

—Continued on page 76a

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—Continued from page 74a

cellent promise for complete remission or major improvement. He also stated that aurothioglycanide is less toxic than other gold preparations available.

Solutions of Sodium Propionate and Chlorophyllin as Wet Dressings

A powder containing 99.75 per cent sodium propionate and 0.25 per cent sodium copper chlorophyllin (Prophyllin) was used in quantities of 2.3 Gm. in about 180 cc. of water to prepare solutions for use as wet dressings or a mouth wash. Occasionally stronger solutions were used. In foot baths, 2.3 Gm. was dissolved in a pint of water.

According to Peck, Traub, and Spoor in *A.M.A. Arch. Drmatol. Syphil.* [*67*:263 (1953)] this combination practically eliminated the odor usually associated with local propionate therapy and the chlorophyllin also seemed to enhance the therapeutic effect of the sodium propionate. The antipruritic effect was particularly enhanced. Over 100 cases were treated with conditions varying from dermatophytosis to diaper rash, with good results.

Paroxysmal Tachycardia Treated with Methoxamine

Methoxamine hydrochloride (Vasoxyl) not only arrested the supraventricular tachycardia but was effective in the relief of vascular collapse, because of its powerful pressor action. Two cases were reported by Berger and Rackliffe in *J.A.M.A.* [*152*:1132(1953)], one with nodal tachycardia and the other with auricular tachycardia.

The drug was administered intravenously in one case in a dose of 20 mg., and intramuscularly in the other case in a dose of 10 mg. The rapid action of methoxa-

—Continued on page 80a

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In soft tissue metastases	39% (14 of 37 pts.)	22% (38 of 174 pts.)
In osseous metastases	25% (8 of 32 pts.)	19% (26 of 133 pts.)

Pain	28	22
Anorexia	11	10
General Malaise	10	8
Cough	7	6
Dyspnea	13	8
Headache	6	6
Nausea	6	4
Vomiting	4	3

Of the 36 patients with symptoms referable to their carcinoma, a total of 87% experienced symptomatic improvement under Neodrol therapy.

Escher, G. C., et al.: Clinical Research Proceedings 1:51 (Apr.)

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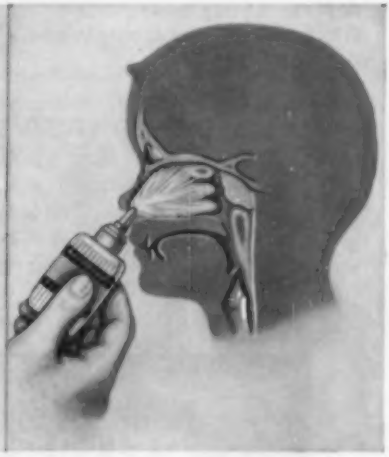

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—Continued from page 76a

mine was manifested in the achievement of a normal pulse rate within 30 minutes, in both cases. The drug did not appear to induce any cardiac irritability, as is the case with many of the other pressor amines.

The authors concluded that if further experience confirms the safety of methoxamine, it may prove to be the drug of choice in the treatment of supraventricular tachycardia.

A New Antispasmodic in Gastrointestinal Complaints

The new synthetic antispasmodic, δ, δ diphenyl-δ-dimethylaminovaleramide hydrogen sulfate (Centrine), has been shown to be effective in controlling gastric motility, acidity, and secretory rate. When it was used in the treatment of peptic ulcer patients, Bolt, Bratt, and Pollard reported in *Gastroenterol.* [*24*:204(1953)] that it proved to be of value in conjunction with routine basic therapy consisting of Meulengracht diet, magnesium trisilicate, and phenobarbital.

In 66 patients treated, no adverse hematologic effects occurred and its atropine-like side effects were not disturbing or of serious nature. The authors stated that the drug was 50 to 100 times as potent as Banthine. The dosage is similar to that for atropine sulfate.

A Tasteless Derivative of Chloramphenicol

A tasteless derivative of chloramphenicol, chloramphenicol phosphate, was described by Taylor in *J. Pharm. Pharmacol.* [*5*:254 (1953)]. It is a crystalline solid sparingly soluble in water. It was prepared by the action of either phosphorus trichloride or phosphorus tribromide on a solution of chloramphenicol in either methylene dichloride or ethylene dichloride. Mild hydrolysis then follows. A preliminary test in mice indicated that

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—Continued from page 80a

the salt was as effective as chloramphenicol itself against *Streptococcus pyogenes*.

Compound Reduces Nausea in Laryngoscopy

A combination of atropine, scopolamine, and phenobarbital (Apolamine) used as a preliminary medication reduced the incidence of nausea and vomiting to 4 per cent in 1154 patients about to undergo laryngoscopy, bronchoscopy, or esophyascopy. The prior incidence of nausea and vomiting in 2912 similar patients had been 11 per cent. According to Holinger, Sadone, and Johnston in *Laryngoscope* [*63*:485 (1953)] there were no undesirable side effects from the use of the drug.

Diagnosis, Please!

ANSWER
(from page 25a)

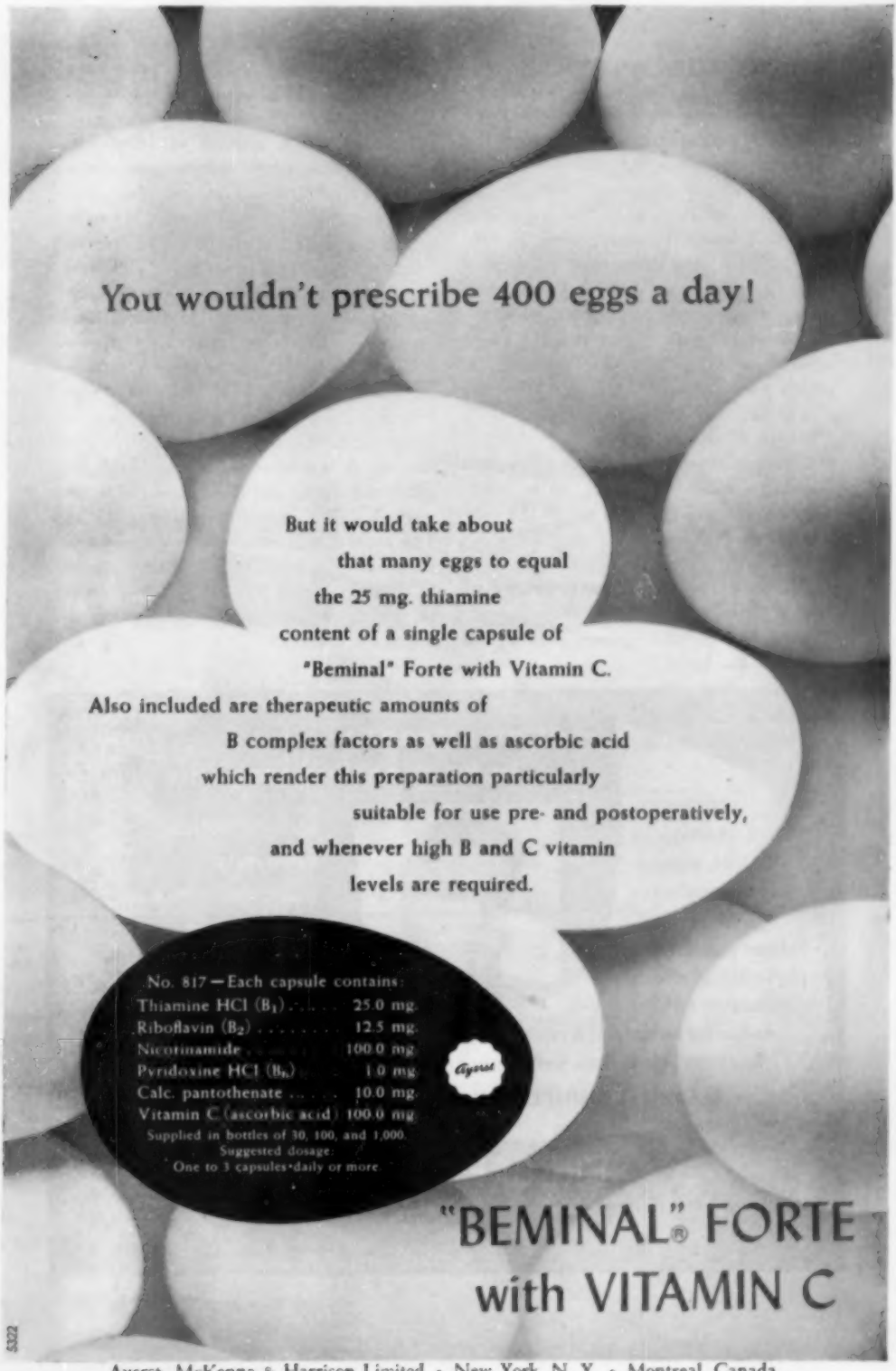
DIVERTICULUM

Note the smooth out-pocketing of the broad neck arising from the right border of the distal segment of the esophagus, characteristic of a diverticulum.

Terramycin Helpful in Dermatoses

Terramycin was beneficial in the treatment of secondary pyogenic infections in 1194 patients with various dermatoses, 466 of whom received the antibiotic orally and 728 of whom were treated topically. Both

—Concluded on page 84a



Ayerst, McKenna & Harrison Limited • New York, N. Y. • Montreal, Canada

MODERN THERAPEUTICS

—Concluded from page 82a

oral and topical treatment cleared the pyogenic infections but did not benefit the underlying dermatoses, according to the report of Robinson, Shapiro, Zeligman, and Cohen in *South, Med. J.* [*46*: 773 (1953)]. The dermatoses involved in those patients receiving oral treatment were eczema, epidermophytosis, stasis ulcers, and seborrheic dermatitis. Those involved in topical treatment included impetigo contagiosa, ecthyma, and various other skin eruptions.

Eleven of the patients treated with the antibiotic ointment developed contact sensitivity, which was shown to be sensitivity to the antibiotic and not to the ointment base.

A Method for the Measurement of the Stability of Vitamin A

A method for the measurement of the stability of vitamin A by adsorption on a solid surface was presented by Stross and Stuckey in *J. Pharm. Pharmacol.* [*5*: 547 (1953)]. A number of adsorbents were tried, including: calcium phosphate, kieselguhr, barium sulfate, and silica. Calcium phosphate B.P. was chosen and used in a ratio of 50 to 1 of the oil by weight.

The oil was adsorbed on the solid and then placed in small, wide-mouthed screw cap bottles and stored at the desired temperature. At chosen intervals the contents were weighed, the vitamin A extracted with portions of chloroform or cyclohexane. The solution was made up to volume and filtered if necessary. The vitamin A was determined spectrophotometrically or by the antimony trichloride method. The results were reproducible. The method was simple in operation and particularly suitable for the determination of the stability of vitamin A oils present in tablets or adsorbed on solids, according to the authors.

THESODATE

THE ORIGINAL ENTERIC-COATED TABLET
OF THEOBROMINE SODIUM ACETATE

provides
EFFECTIVE
WELL-TOLERATED
PROLONGED
VASO-DILATION

REPEATEDLY SHOWN and proven by objective tests on human subjects[1] – this is one of the most effective of all the commonly known Xanthine derivatives. Because of the enteric coating it may be used with marked freedom from the gastric distress characteristic of ordinary Xanthine therapy. Thus THESODATE, with its reasonable prescription price also, enjoys a greater patient acceptability.

in
CORONARY ARTERY DISEASE

Available: **In bottles of 100, 500, 1000.**

TABLETS THESODATE

*(7½ gr.) 0.5 Gm. *(3¾ gr.) 0.25 Gm.

THESODATE WITH PHENOBARBITAL

*(7½ gr.) 0.5 Gm. with (½ gr.) 30 mg.
(7½ gr.) 0.5 Gm. with (¼ gr.) 15 mg.
*(3¾ gr.) 0.25 Gm. with (¼ gr.) 15 mg.

THESODATE WITH POTASSIUM IODIDE

(5 gr.) 0.3 Gm. with (2 gr.) 0.12 Gm.

THESODATE, POTASSIUM IODIDE WITH PHENOBARBITAL

(5 gr.) 0.3 Gm., (2 gr.) 0.12 Gm. with (¼ gr.) 15 mg.

***In capsule form also, bottles of 25 and 100.**

1. Riseman, J. E. F. and Brown, M. G. Arch. Int. Med. 60: 100, 1937
2. Brown, M. G. and Riseman, J. E. F. JAMA 109: 256, 1937.
3. Riseman, J. E. F. N. E. J. Med. 229: 670, 1943.

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...she's the picture of misery, doctor, whenever she catches cold...

a simpler, safer way to relieve "STUFFED-UP NOSE"

What mother . . . when her youngster has a "stuffed-up nose" . . . remembers your warnings about indiscriminate use of topical applications?

Novahistine, *taken orally*, reduces nasal congestion promptly. It eliminates *your* problem of "overtreatment" between office visits . . . and *mother's* problem of administering drops or sprays to a rebellious child.

The vasoconstrictor agent[1] in Novahistine causes no cerebral excitement and does not lose effectiveness with repeated dosage. Its action is potentiated by one of the most effective, least toxic histamine antagonists.[2]

NOVAHISTINE IS AVAILABLE AS A PALATABLE ELIXIR AND SMALL, EASY-TO-TAKE TABLETS.

NASAL DECONGESTION . . . WITH ORAL DOSAGE

NOVAHISTINE*

Each teaspoonful or tablet provides:
(1) Phenylephrine hydrochloride..... 5.0 mg.
(2) Prophenpyridamine maleate..... 13.5 mg.

PITMAN-MOORE COMPANY
Division of Allied Laboratories, Inc., Indianapolis, Ind.

*TRADEMARK

NEWS AND NOTES

Number of Interns and Residents in Hospital Training Doubled

Twice as many interns and resident physicians today are completing their training and furthering their education through hospital work as there were prior to World War II. During the year 1952-53, there were 7,645 interns and 16,867 resident physicians on duty in the nation's hospitals, compared to a total of approximately 12,000 in 1940.

This was disclosed in the 27th annual report on internships and residencies in the United States, prepared by the Council on Medical Education and Hospitals of the American Medical Association. The report appears in a recent *Journal of the American Medical Association*.

To make certain that the American people obtain the best medical care, the A.M.A., through its Council on Medical Education and Hospitals, accredits only those hospitals for the training of the country's physicians that meet set educational and clinical standards.

It is significant to note, the report pointed out, that the number of hospitals offering approved intern training has increased 12 per cent during the last 10 years, from 760 to 856, while the number of internships available has risen 32 per cent, from 8,180 to 11,006.

Of the total number of internships offered, 9,497, or 90 per cent, were rotating internships, an increase of six per cent over the previous year. Rotating internships are those in which the intern spends two or more months in each of the major divisions of medicine — internal medicine, surgery, obstetrics-gynecology, and pediatrics. This type of internship training is primarily designed to prepare a physician for the general practice of medicine. If a physician decides to enter a specialty, he must take from two to four additional years of hospital training in the specialty he chooses. This is known as residency training.

As of September 1, 1952, there were 7,645 interns on duty, 1,300 to 1,400 of whom were graduates of medical schools outside the United States. The majority of state examining boards require foreign medical school graduates to have a year's internship in an accredited American hospital prior to taking state board examinations to obtain a license to practice medicine.

During the last 10 years there has been a marked increase in the number of residents entering certain specialty fields, reflecting the increased demand by the public for the services of these specialists. Considering first year appointments only, last year the largest number of residents, 1,533 entered the field of psychiatry. Internal medicine, with 1,352 residents, was second, and general surgery, with 1,256, was third.

Value of Ingested Chlorophyll Not Determined, Editorial Says

The value of chlorophyll derivatives taken internally as deodorizing agents has not been determined, it was stated editorially in a recent *Journal of the American Medical Association*.

Although some research has been done, "it seems apparent that no final conclusion can be reached about the deodorizing effects of chlorophyll derivatives until the composition of the various preparations is more exactly delineated, the fate of ingested chlorophylls in the body is determined, and more objective testing has been done," the editorial said, adding:

"For a number of years water-soluble derivatives of chlorophyll have been used for the purpose of eliminating unpleasant odors from wounds or from the air. More

—Continued on page 96a

fast-acting salicylate formula

HIGH in analgesic power

LOW in risk to the patient

Recent studies[1,2] suggest that the time-tried salicylates exert a *hormonal* action similar to that of ACTH, stimulating release of cortisone.

Whenever rapid and sustained salicylate action is desired, **ELPAGEN** gives your patient the benefits of a *potentiated* salicylate combination in *uncoated* tablet form—without the gastric irritation of unmodified salicylates and without the potential dangers (or expense) of ACTH or cortisone itself.

ELPAGEN PATCH

Each orange-colored, uncoated tablet provides:

Sodium salicylate	5 gr.	(325 mg.)
Sodium para-aminobenzoate	3 gr.	(195 mg.)
Salicylamide	½ gr.	(32.5 mg.)

} *POTENTIATED SALICYLATE BLOOD LEVELS*

plus

Ascorbic acid (as sodium ascorbate) ..... 30 mg.

} *SAFEGUARD AGAINST VITAMIN C DEPLETION AND CAPILLARY HEMORRHAGE*

Dihydroxy aluminum aminoacetate ..... ½ gr. (32.5 mg.)

} BUFFERING ACTION *OVERCOMES GASTRIC INTOLERANCE*[3]

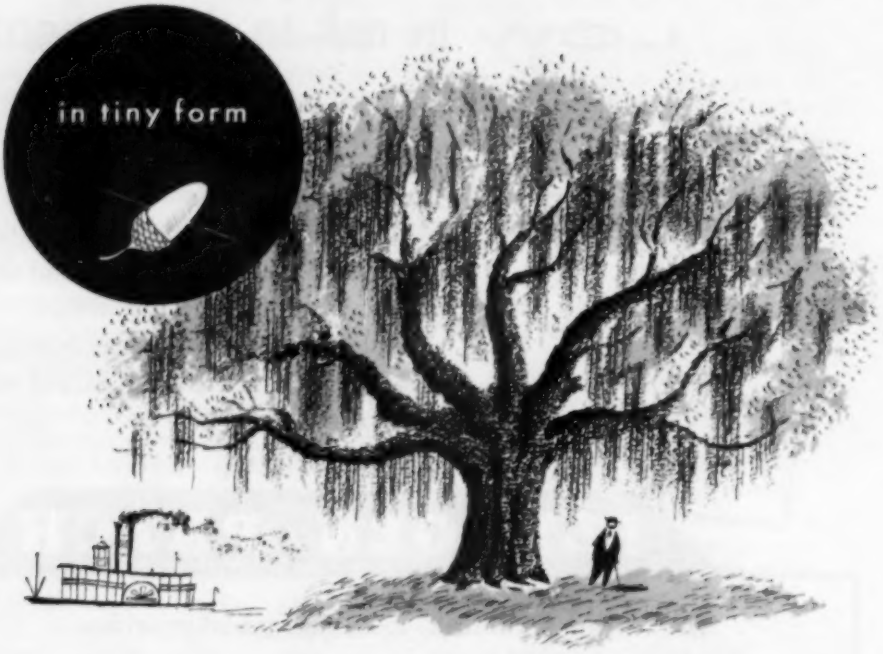
SUPPLIED in bottles of 100 and 500 tablets.

1. Van Cauwenberge, H.: Lancet 261:374, 1951; Van Cauwenberge, H., and Heusghem, C.: Proc. Soc. Exper. Biol. & Med. 80:51, 1952. 2. Pelloja, M.: Lancet 1:233, 1952. 3. Paul, W. D., et al.: J. Am. Pharm. A., Scient. Ed. 39:21, 1950.

THE E. L. PATCH COMPANY

STONEHAM • MASSACHUSETTS

Great Potency



the therapeutic multivitamin tablets with B_{12} and no fish oil

In the smallest, most potent tablet of its kind, OPTILETS offer new convenience in multivitamin therapy. One compressed, easy-to-swallow OPTILET provides six synthetic vitamins *plus 6 mcg. of* B_{12}. With synthetic A, there's no fish-oil odor, taste or "burp." Tablets—not capsules—OPTILETS can't leak, won't stick together. One or more daily is the therapeutic dose. Sugar-coated OPTILETS are available in bottles of 50, 100 and 1000 vanilla-flavored tablets. Cost no more than ordinary therapeutic formula vitamins. Abbott

Each OPTILET tablet contains:

Vitamin A (Synthetic Vitamin A Palmitate)	25,000 U.S.P. units
Vitamin D (Viosterol)	1000 U.S.P. units
Thiamine Mononitrate	10 mg.
Riboflavin	5 mg.
Nicotinamide	150 mg.
Vitamin B_{12} (as vitamin B_{12} concentrate)	6 mcg.
Ascorbic Acid	150 mg.

Optilets®

(Abbott's Therapeutic Formula Vitamin Tablets)

Old cases of PSORIASIS Quickly relieved by RIASOL

"I have had psoriasis for 25 years," wrote a physician who used RIASOL successfully on himself. "I may say that no treatment or no product has given me the satisfaction that RIASOL has."

The value of RIASOL is proved by quick results in old cases of psoriasis where other treatments have failed. In a series of 21 cases of psoriasis treated with RIASOL, the average duration of the disease was 8 years. Yet the average period in which the skin lesions cleared was only 8 weeks.

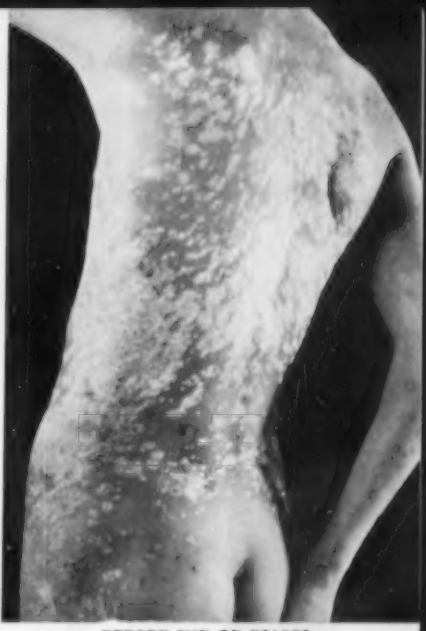
One patient suffered for 30 years without remissions. The skin patches covered his chest, abdomen, back, thighs, legs, neck, arms, hands and face. After 24 weeks of treatment with RIASOL, his condition was greatly improved. The scales had disappeared and the redness and elevation of the lesions were greatly reduced.

RIASOL contains 0.45% mercury chemically combined with soaps, 0.5% phenol and 0.75% cresol in a washable, non-staining, odorless vehicle.

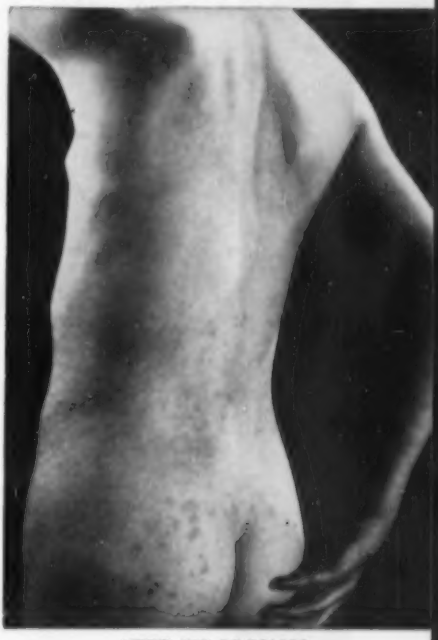
Apply daily after a mild soap bath and thorough drying. A thin invisible, economical film suffices. No bandages required. After one week, adjust to patient's progress.

Ethically promoted RIASOL is supplied in 4 and 8 fld. oz. bottles at pharmacies or direct.

MAIL COUPON TODAY—TEST RIASOL YOURSELF



BEFORE USE OF RIASOL



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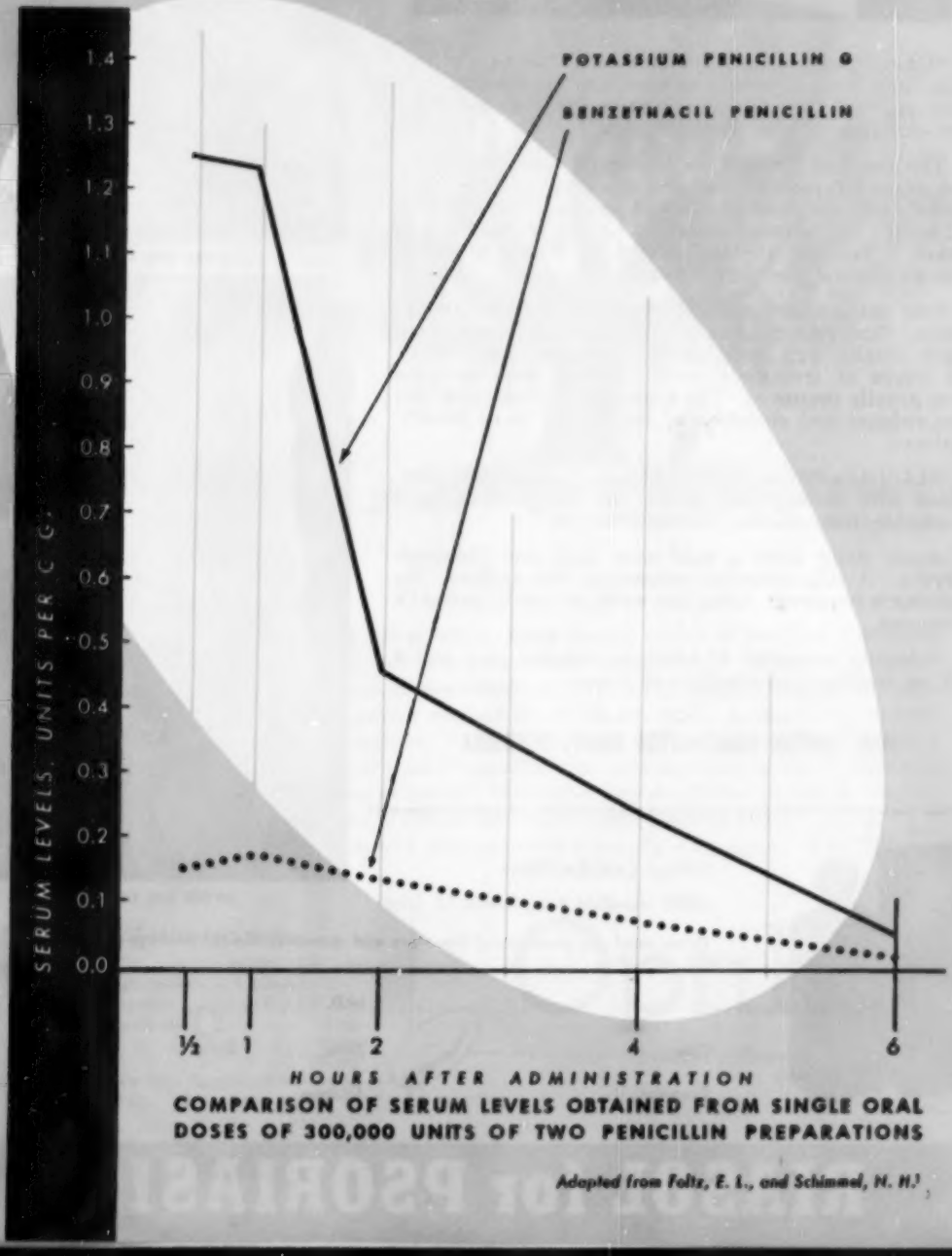
RIASOL for PSORIASIS

IN ORAL PENICILLIN THERAPY . . .

Much Higher Initial Peaks
More Prolonged Effective Blood Levels



COMPARISON OF SERUM LEVELS OBTAINED FROM SINGLE ORAL DOSES OF 300,000 UNITS OF TWO PENICILLIN PREPARATIONS

Adapted from Foltz, E. L., and Schimmel, H. H.

Several very recent studies on penicillin plasma concentration and urinary recovery indicate that potassium penicillin G is the penicillin compound most ideally suited to oral medication.

Following oral administration of the two compounds in equal dosage, Foltz and Schimmel[1] observed a considerably higher initial level and a more prolonged effective serum concentration with potassium penicillin G than with benzethacil.

Boger and co-workers[2] found no insoluble salt of the antibiotic to be superior to potassium penicillin G.

DRAMCILLIN

Potassium Penicillin G

DRAMCILLIN presents the established effectiveness and safety of pure potassium penicillin G in an unusually palatable form.

A DRAMCILLIN PRODUCT FOR EVERY DOSAGE RANGE:

DRAMCILLIN
100,000 units* per teaspoonful (5 cc.)

DRAMCILLIN-250
250,000 units* per teaspoonful (5 cc.)

DRAMCILLIN-500
500,000 units* per teaspoonful (5 cc.)

DROPCILLIN
50,000 units* per dropperful (0.75 cc.)

Also:
Dramcillin-250 with Triple Sulfonamides
Dramcillin with Triple Sulfonamides
Dramcillin-250 Tablets with Triple Sulfonamides

1. Foltz, E. L., and Schimmel, N. H.: Antibiotics & Chemotherapy, 3:593-599 (June) 1953.

2. Boger, W. P.; Bayne, G. M.; Carfagno, S. C. and Gylfe, J.: Scientific Exhibit, A.M.A. Convention, New York (June) 1953.

*buffered crystalline penicillin G potassium

WHITE LABORATORIES, INC., KENILWORTH, N. J.

The N.N.R. monograph on Furadantin states:

"**Nitrofurantoin.—Furadantin (Eaton).—**

Actions and Uses.—Nitrofurantoin, a nitrofuran derivative, exhibits a wide spectrum of antibacterial activity against both gram-positive and gram-negative micro-organisms. It is bacteriostatic and may be bactericidal to the majority of strains of Escherichia coli, Micrococcus (Staphylococcus) pyogenes albus and aureus, Streptococcus pyogenes, Aerobacter aerogenes, and Paracolobactrum species. The drug is less effective against Proteus vulgaris, Pseudomonas aeruginosa, Alcaligenes faecalis, and Corynebacterium species; many strains of these organisms may be resistant to it. However, bacterial resistance to other anti-infective agents is not usually accompanied by increase in resistance of the organisms to nitrofurantoin. The drug does not inhibit fungi or viruses.

Nitrofurantoin is useful by oral administration for the treatment of bacterial infections of the urinary tract and is indicated in pyelonephritis, pyelitis, and cystitis caused by bacteria sensitive to the drug. It is not intended to replace surgery when mechanical obstruction or stasis is present. Following oral administration, approximately 40% is excreted unchanged in the urine. The remainder is apparently catabolized by various body tissues into inactive, brownish compounds that may tint the urine. Only negligible amounts of the drug are recovered from the feces. Urinary excretion is sufficiently rapid to require administration of the drug at four to six hour intervals to maintain antibacterial concentration. The low oral dosage necessary to maintain an effective urinary concentration is not associated with detectable blood levels. The high solubility of nitrofurantoin, even in acid urine, and the low dosage required diminish the likelihood of crystalluria.

Nitrofurantoin has a low toxicity. With oral administration it occasionally produces nausea and emesis; however, these reactions may be obviated by slight reduction in dosage. An occasional case of sensitization has been noted, consisting of a diffuse erythematous maculopapular eruption of the skin. This has been readily controlled by discontinuing administration of the drug. Animal studies, using large doses administered over a prolonged period, have revealed a decrease in the maturation of spermatozoa, but this effect is reversible following discontinuance of the drug. Until more is known concerning its long-term effects, blood cell studies should be made during therapy. Frequent or prolonged treatment is not advised until the drug has received more widespread study. It is otherwise contraindicated in the presence of anuria, oliguria, or severe renal damage.

Dosage.—Nitrofurantoin is administered orally in an average total daily dosage of 5 to 8 mg. per kilogram (2.2 to 3.6 mg. per pound) of body weight. One-fourth of this amount is administered four times daily—with each meal and with food at bedtime to prevent or minimize nausea. For refractory infections such as Proteus and Pseudomonas species, total daily dosage may be increased to a maximum of 10 mg. per kilogram (4.5 mg. per pound) of body weight. If nausea is severe, the dosage may be reduced. Medication should be continued for at least three days after sterility of the urine is achieved."

The NITROFURANS
A unique class of antimicrobials

EATON LABORATORIES Inc.
NORWICH, NEW YORK

—Continued from page 88a

recently a number of investigators have reported that chlorophyll derivatives taken orally are capable of reducing unpleasant body odors. On the basis of these and other reports, enterprising promotors have sold tremendous quantities of chlorophyll derivatives to the public in tablets, mouth washes, toothpastes, and other vehicles. More recently, several authors have questioned the whole concept of chlorophyll deodorization.

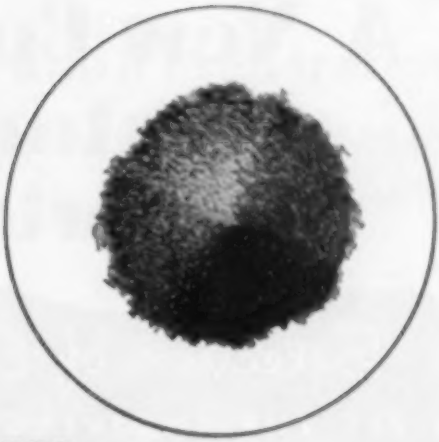
The editorial cited numerous experiments made to evaluate chlorophyll derivates as deodorizing agents for body and general noxious odors. In many cases the derivatives failed to alleviate the odors.

Commercial water-soluble preparations do not contain chlorophyll, which is very insoluble, but rather products of an alkaline breakdown of chlorophyll (so-called chlorophyllins) in which the central magnesium atom of chlorophyll has been replaced by copper or nickel. The final products are believed to be copper or nickel pheophytins rather than chlorophyllins, according to the editorial.

In addition, it added, "several observers have suggested that the activity of chlorophyll derivatives used as space deodorants may be due, in part at least, to the presence in such preparations of some fragrant substance such as pine oil that can mask less pleasant odors, or to the presence of a small amount of formaldehyde, which is capable of paralyzing olfactory nerve endings so that unpleasant odors can no longer be dected."

"The masking mechanism would not, of course, explain the reputed action of in-

—Continued on page 100a



for restoration

and maintenance

of normal bowel function

Siblin

BULK-LUBRICANT FOR PHYSIOLOGIC TREATMENT OF CONSTIPATION

SIBLIN provides a granular, water-absorbent derivative of plantago which mixes intimately with food residues to form a soft, gelatinous mass in the large intestine. Nonirritating and virtually unaffected by digestive ferments, this smooth, cohesive mass provides bulk and lubrication for easy passage through the bowel. To aid in improving peristaltic function, SIBLIN contains, in each heaping teaspoonful, approximately 2 mg. of vitamin B_1.

In systematic treatment for chronic constipation, regular ingestion of SIBLIN encourages re-establishment of normal bowel function. In diarrhea, SIBLIN promotes the formation of stools of normal consistency, and following hemorrhoidectomy it helps assure soft stools.

Dosage: constipation, two teaspoonfuls, morning and night, with a full glass of water.
diarrhea, three heaping teaspoonfuls, or more, with a full glass of water, as required.
hemorrhoidectomy, one teaspoonful with a full glass of water, after meals.
supplied: 4-ounce and 16-ounce packages.

MEDICAMENTA VERA

Parke, Davis + Company

A New Concept of Treatment in Hypertension

Selection of Effective Drugs

TO FIT THE INDIVIDUAL PATIENT'S NEEDS

CRITICAL selection of drugs to fit the individual patient's needs has resulted in considerable progress in the management of the hypertensive patient. The approach to therapy can be rational and effective.

Whether the physician uses the criteria of Palmer, Loofbourow, and Doering;[1] those of Keith, Wagener, and Barker;[2] those of Smithwick,[3] or those of Pickell[4] for the evaluation of the patient's status, an armamentarium has been developed which permits of effective treatment in virtually every type and grade of the disease.

Two features are outstanding in this new concept of checking the patient's status against the drugs available:

A—No longer is it justified to withhold treatment from the patient with mild, labile hypertension, with or without symptoms. Today there is effective therapy for him, which gradually and safely lowers his blood pressure . . . gives him a new sense of tranquil well-being . . . rapidly overcomes any symptom flare-ups[5,6,7] . . . and bids well to prove effective in arresting or at least impeding further progress of the disease.

B—Broad clinical research and the resultant better understanding of hypotensive therapy have led to the development of drug combinations advantageous in treatment of more advanced or resistant cases. In these combinations, apparently through synergistic action, considerably smaller dosages of the potent hypotensives (as much as 50% less) deliver full therapeutic efficacy . . . make them effective in a higher percentage of patients . . . lessen the dangers inherent in some of them . . . reduce the incidence and severity of side actions . . . render successful treatment less difficult and less fraught with anxiety.[8,9,10]

Much of the advancement which recent years have seen in the management of hypertensive disease has been made available to the physician through research by Riker Laboratories. Among Riker "Firsts" are alkavervir, alseroxylon, and the combinations shown on the adjoining page.

1. Palmer, R.S.; Loofbourow, D., and Doering, C.R.: New England J. Med. *239*:990. (Dec.) 1948.
2. Keith, N.M.; Wagener, H.P., and Barker, N.W.: Am. J. M. Sc. *197*:332 (Mar.) 1939.
3. Smithwick, R.H.: Hypertension, A Symposium, edited by E.T. Bell, Minneapolis, University of Minnesota Press, 1951, pp. 429-448.
4. Pickell, F.W.: J. Louisiana M. Soc. *105*:393 (Oct.) 1953.
5. Vakil, R.J.: Brit. Heart J. *11*:350 (Oct.) 1949.
6. Wilkins, R.W.; Judson, W.E., and Stanton, J.R.: Proc. New England Cardiovas. Soc., 1951-1952, p. 34.
7. Ford, R.V.; Livesay, W.R.; Miller, S.I., and Moyer, J.H.: M. Rec. & Ann. *47*:608 (Aug.) 1953.
8. Wilkins, R.W., and Judson, W.E.: New England J. Med. *248*:48 (Jan. 8) 1953.
9. Ford, R.V., and Moyer, J.H.: Am. Heart J. *46*:754 (Nov.) 1953.
10. Ford, R.V., and Moyer, J.H.: GP *8*:51 (Nov.) 1953.

An Effective RIKER Preparation
For Every Grade of the Disease

IN GRADE I

RAUWILOID

for Mild, Labile Hypertension

This selective alkaloidal extract (the alseroxylon fraction) of Rauwolfia serpentina provides effective treatment in the largest contingent of hypertensive patients, those with mild, labile hypertension. Rauwiloid produces:

- Moderate, gradual lowering of blood pressure—a slow, smooth prolonged hypotensive effect . . .
- Rapid relief of symptoms, usually long before the full hypotensive effect is accomplished . . .
- Gentle sedation (a new type—without somnolescence) —a new sense of tranquility and well-being . . .
- Mild bradycardia, appreciated especially when tachycardia has led to anxiety . . .
- Virtually no side effects.

Rauwiloid retains the balanced activity of the several alkaloids of Rauwolfia serpentina in a purified, reproducible form. Effectiveness of Rauwiloid is assured by demonstrating in dogs the ability of each batch to produce the clinically desired hypotension, bradycardia, and sedation. Its action, centrally mediated, is exerted along physiologic channels. It is not adrenergic or ganglionic blockade, does not lead to postural hypotension.

Dosage is not critical, since increasing it beyond the minimum effective level produces but little increment of hypotensive effect or side actions. There are no known contraindications. Tolerance does not develop, hence maintenance does not require upward adjustments of dosage.

Dosage: One dose per day, initially 2 tablets (2 mg. each), taken on retiring, usually suffices; after full effect is reached, 1 tablet per day frequently is adequate for maintenance.

IN GRADES II and III

RAUWILOID + VERILOID

for Moderate to Severe Hypertension

The combination of Rauwiloid with the faster-acting, more potent hypotensive—Veriloid—provides effective therapy with least risk. Apparently potentiation of action makes smaller dosage of the more potent agent produce the desired hypotensive, symptom-relieving effects.

Each tablet of Rauwiloid+Veriloid presents 1 mg. of Rauwiloid and 3 mg. of Veriloid. Initial dose, 1 tablet t.i.d., best after meals. After 2 weeks, for establishment of Rauwiloid effect, dosage should be raised if required. Average maintenance dose, 1 tablet q.i.d.; some patients may require up to 2 tablets q.i.d.

At the effective dosage level the side actions to Veriloid (nausea or vomiting) are rarely encountered. In a high percentage of cases the combination provides rapid relief of associated symptoms, blood pressure is lowered, dosage adjustment is simplified, the patient gains a new sense of well-being, and—there is no danger of excessive hypotension. The addition of Rauwiloid greatly increases the percentage of patients in whom veratrum proves effective.

IN GRADES III and IV

RAUWILOID + HEXAMETHONIUM

for Intractable, Rapidly Progressing Hypertension

With this combination (each tablet contains Rauwiloid 1 mg. and hexamethonium 250 mg.) oral hexamethonium therapy becomes safer and easier to manage—a distinct advantage when the patient's status warrants the risk of using the most hypotensive mechanism—ganglionic blockade.

The full hypotensive effect of hexamethonium is realized from greatly reduced dosage (frequently up to 50% less), apparently because of synergistic action with Rauwiloid. Associated symptoms quickly yield, tachycardia is relieved by the mild bradycardic action of Rauwiloid, and tranquility supervenes.

Cautions and contraindications are only those applying to hexamethonium; but diligent patient supervision and careful instruction of the patient remain mandatory.

Therapy should be initiated with ½ tablet q.i.d., not less than 4 hours apart, best after meals and on retiring. After two weeks, when Rauwiloid effect has been established, dosage should be increased by 1 tablet per day, but not oftener than twice weekly, until desired effect is obtained.

In Hypertensive Crises—Encephalopathy—Eclampsia

Parenteral veratrum preparations provide for immediate control of the critical blood pressure; they should be followed by carefully selected, adequate oral therapy based on the prognostic features of the case.

Riker LABORATORIES, INC.

8480 BEVERLY BLVD. • LOS ANGELES 48, CALIF.

—Continued from page 96a

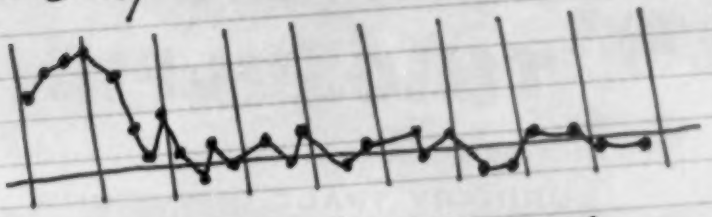
gested chlorophyll in reducing body odors," the editorial pointed out. "So many observers have reported such effects that they cannot be dismissed lightly, but it must be remembered that the sense of smell is one of the least reliable for purposes of quantitative analysis of stimuli because of the phenomenon of rapid fatigue and the potent influence of suggestion."

Recent Advances in the Study of Inflammation

Hans Selye at the 1953 Convention of the International Academy of Proctology discussed the relation of stress and general adaptation stress (G-A-S) to inflammation with special reference to peptic ulcer. In experiments on rats, it was found that normal connective tissue was digested by gastric juice, whereas treatment of connective tissue with an irritant protected it against digestion by gastric juice, unless the animals were exposed to some "intense systemic stress." Local tissues apparently respond to local or topical stress in much the same ways as the entire organisms responds to general stress; this the author designates as the "local adaptation system" (L-A-S). This leads to the conclusion that no special substance of gastric origin is necessary to explain the known resistance of gastric-ulcer areas to digestion by the gastric juice. This also explains why intense systemic stress or the administration of ACTH or adrenal cortex hormones may abolish this local protection and may result in the perforation of peptic ulcer. Acute gastrointestinal ulcers that are caused by stresses such as burns or trauma must be distinguished

—Continued on page 104a

Dx/ Pneumonia



℞/ Terramycin

brand of oxytetracycline

an antibiotic of choice

When the diagnosis is pneumonia, Terramycin therapy usually brings quick results because this broad-spectrum antibiotic is equally effective against coccal, Friedländer's and atypical virus pneumonia. "After the administration of Terramycin, 5¢ of the [60] patients...improved rapidly with almost complete defervescence within twenty-four hours."[1]

Given in the recommended daily adult dose of 250 to 500 mg. q. 6 h., Terramycin is exceptionally well tolerated. "There were no toxic manifestations from this antibiotic....No nausea or vomiting was noted. No patient developed leukopenia."[2]

Even cases that resisted previous treatment with other agents frequently show a gratifying response to Terramycin therapy. "A case of staphylococcal pneumonia, complicated by tension pneumothorax which had shown no response to [another antibiotic], made a rapid, complete recovery on a dosage of 15 mg. per lb."[3]

1. Knight, V.: New York State J. Med. 50:2173 (Sept. 15) 1950.
2. Potterfield, T. C., and Starkweather, C. A.: J. Philadelphia Gen. Hosp. 2:6 (Jan.) 1951.
3. Swift, P. M.: Proc. Roy. Soc. Med. 44:1066 (Dec.) 1951.

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PFIZER LABORATORIES
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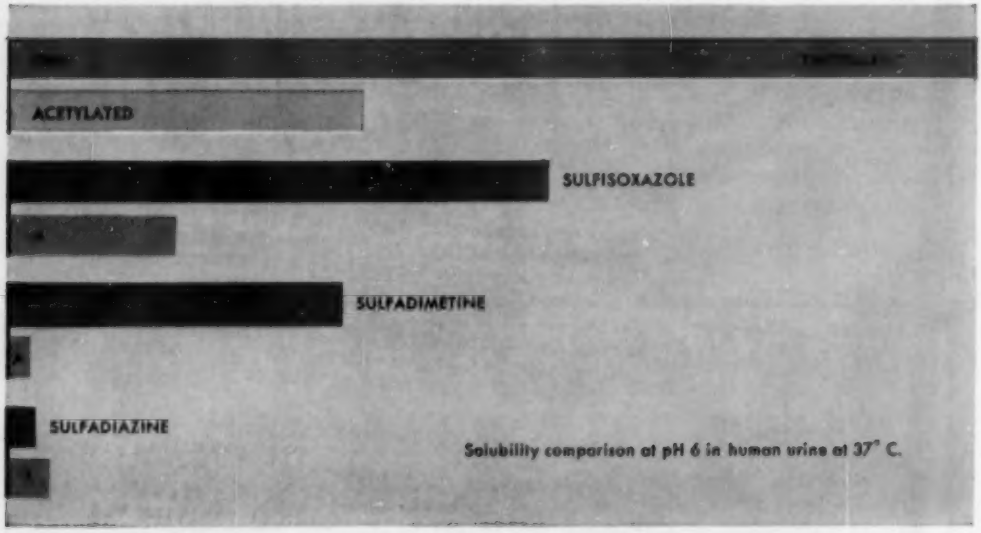
more soluble MEANS more suitable

"Thiosulfil" is appreciably more soluble than the three other leading sulfonamides prescribed in infections of the urinary tract. Its greater solubility, combined with high bacteriostatic activity and low acetylation, makes

"THIOSULFIL"®

the safest and most effective sulfonamide yet presented for

URINARY TRACT INFECTIONS



- Rapid transport to site of infection for early and effective urinary concentration
- Rapid renal clearance
- Minimum toxicity
- Minimum risk of sensitization
- No alkalinization required
- No forcing of fluids needed

"THIOSULFIL"®

Brand of sulfamethylthiadiazole

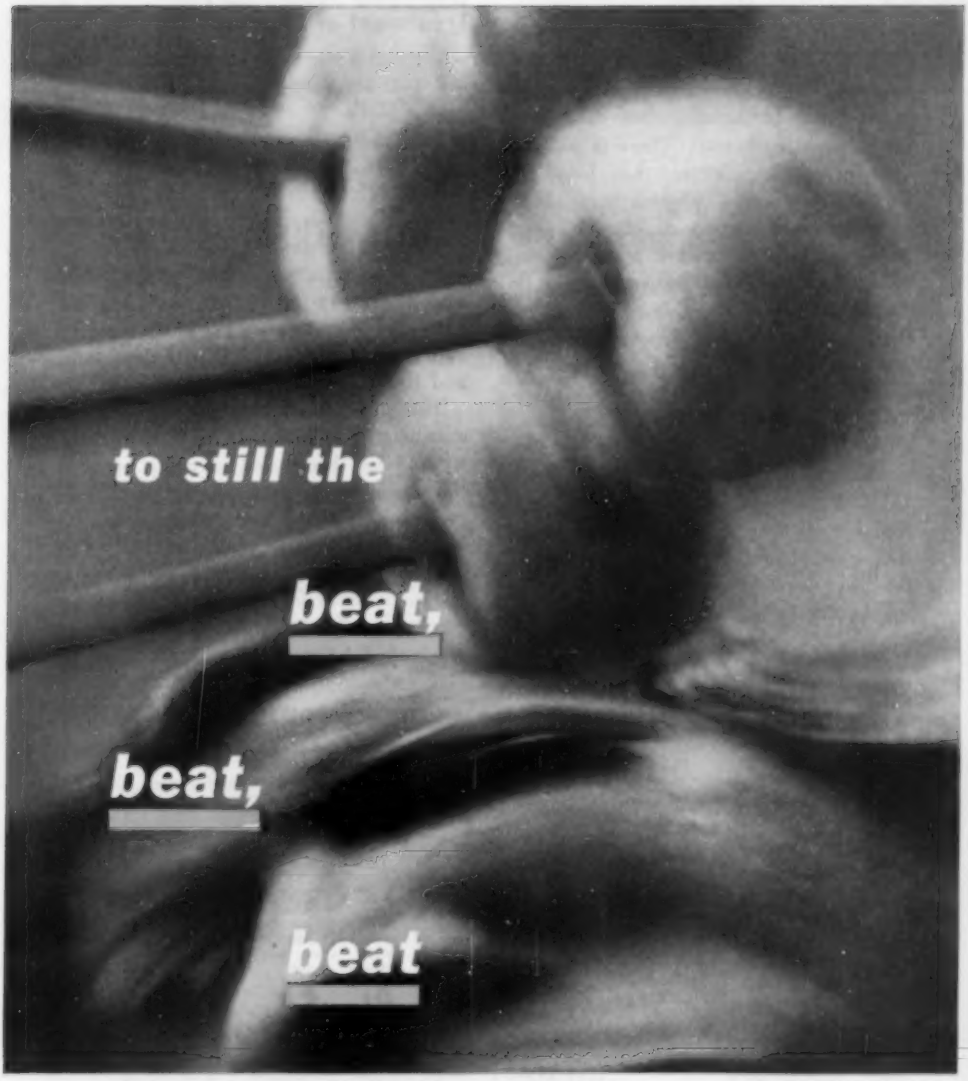
SUSPENSION

No. 914 — 0.25 Gm. per 5 cc.
Bottles of 4 and 16 fluid ounces

TABLETS

No. 785 — 0.25 Gm. per tablet
Bottles of 100 and 1,000

NEW YORK, N. Y. Ayerst MONTREAL, CANADA



of ever-mounting tensions and irritations

Here is an effective aid for your tense and nervous patient who has poor appetite. Bēplete provides low-dosage sedation and therapeutic vitamins (including substantial quantities of vitamin B_{12}).

Bēplete®

Vitamins B-Complex with Phenobarbital

ELIXIR TABLETS

Also available: Bēplete with Belladonna; Elixir and Capsules

PHILADELPHIA 2 PA. Wyeth

—Continued from page 100a

from chronic peptic ulcers; no proof has been found to indicate that such acute ulcers become chronic. There is considerable evidence, however, that long continued or repeated stresses may play a role in the causation of chronic peptic ulcer, and that nervous and emotional stimuli are of special importance in this respect. Clinical data also indicate that these same stresses, especially chronic anxiety and emotional stresses, are involved in the causation of ulcerative colitis. Animal experiments have recently shown that in the rat various "stressers" produce appendicitis-like lesions. On the basis of these studies, the author suggests that derangements of the general adaptation syndrome, including disturbances of the production of ACTH and adrenal cortex hormones, have an important role in the pathogenesis of certain gastrointestinal diseases, especially gastric ulcer and ulcerative colitis.

Camoquin Successful For Treatment of Malaria

Camoquin was used successfully to treat 500 patients with malaria.

Dr. Mark T. Hoekenga of La Lima (Honduras) Hospital told the International Congress of Malaria and Tropical Medicine:

" . . . it is apparent that amodiaquin (Camoquin) is the drug of choice."

Dr. Hoekenga said 920 malaria patients were treated in this survey, including 500 who were given Camoquin. Three hundred and twenty patients received chloroquine, and 100 were treated with plaquenil.

The physician told the Congress that amodiaquin (Camoquin) is "low in toxicity and has been used in many parts of the world with good results in dosages even smaller than those recommended for chloroquine."

"Amodiaquin (Camoquin) was given to 500 patients divided into four groups according to single dosage used. The groups received: 0.4 Gm., 0.6 Gm., 0.8 Gm. or 1.0 Gm. respectively, of the base."

—Continued on page 106a

"But Doctor,

MY HUSBAND SAYS I'M JUST PLEASINGLY PLUMP"

...giggles the overfed patient who is dangerously heavy!

AMPLUS will help curtail her wayward appetite with dextro-Amphetamine Sulfate and protect her from deficiencies in Vitamins, Minerals and Trace Elements.

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EACH CAPSULE CONTAINS

Dextro-Amphetamine Sulfate	5 mg.
Calcium	242 mg.
Cobalt	0.1 mg.
Copper	1 mg.
Iodine	0.15 mg.
Iron	3.33 mg.
Manganese	0.33 mg.
Molybdenum	0.2 mg.
Magnesium	2 mg.
Phosphorus	187 mg.
Potassium	1.7 mg.
Zinc	0.4 mg.
Vitamin A	5000 U.S.P. Units
Vitamin D	400 U.S.P. Units
Thiamine Hydrochloride	2 mg.
Riboflavin	2 mg.
Pyridoxine Hydrochloride	0.5 mg.
Niacinamide	20 mg.
Ascorbic Acid	37.5 mg.
Calcium Pantothenate	3 mg.

J. B. ROERIG AND COMPANY • CHICAGO 11, ILLINOIS

NEWS AND NOTES

—Continued from page 104a

Oral temperature on all patients was recorded every four hours and, throughout hospitalization, thick blood films were examined twice daily.

Of the 500 patients treated with Camoquin, there were only three who did not respond, all of whom had been treated by the 0.4 Gm. dosage. However, the physician pointed out these three responded promptly to a higher dose of the drug.

"In nearly all patients headache, malaise, vomiting, joint pains and other symptoms caused by malaria disappeared within 36 to 48 hours," the physician reported.

New Intensive Treatment of Epilepsy Described

A new form of intensive treatment of epilepsy, whereby the patient is kept in a profound state of unconsciousness for several days, was described in a recent *Journal of the American Medical Association.*

Following such therapy, 64 per cent of those patients previously unrelieved by standard drug treatment have been maintained seizure-free, according to Drs. Tracy J. Putnam and Sanford F. Rothenberg, Beverly Hills, Calif. The doctors are associated with the department of neurosurgery, Cedars of Lebanon Hospital, Los Angeles.

They reported on the results of a five-year study of 75 epileptic patients. All the patients first received the standard anticonvulsant drug treatment. One hundred per cent improvement following this form of therapy was obtained in 42 patients, 75 per cent improvement in three patients, and 50 per cent improvement in five patients.

The new form of intensive treatment was used on the 25 patients still unrelieved. This new therapy consisted of putting the

—Continued on page 108a

They'd fill the floor to overflowing...

all the patients who represent

the 44 uses for short-acting **NEMBUTAL**®

As a sedative or hypnotic . . . in obstetrics, surgery, pediatrics . . . *in more than 44 clinical conditions* . . . short-acting Nembutal has established a 23-year record of acceptance and effectiveness.

Here's why:

1. Short-acting Nembutal (Pentobarbital, Abbott) can produce any desired degree of cerebral depression —from mild sedation to deep hypnosis.

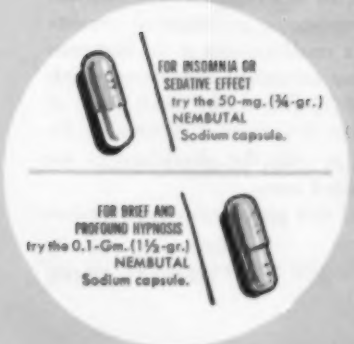
2. The dosage required is small—only about one-half that of many other barbiturates.

3. Hence, there's less drug to be inactivated, shorter duration of effect, wide margin of safety and little tendency toward morning-after hangover.

4. In equal oral doses, no other barbiturate combines quicker, briefer, more profound effect.

Any wonder, then, that the use of short-acting Nembutal continues to grow each year? How many of short-acting Nembutal's uses have *you* tried?

Abbott



—Continued from page 106a

patient in a profound state of unconsciousness by administration of massive doses of diphenylhydantoin (an anticonvulsant drug). If this did not produce a comfortable relaxation, paraldehyde or phenobarbital were given as a supplement. Glutamic acid and small, hourly inhalations of a carbon dioxide-oxygen mixture also were given to the patient.

A special diet was prescribed, and when the patient became too sleepy to eat or drink, intravenous injections of a glucose solution were administered to prevent dehydration. Antibiotics also were given to prevent infection.

The period of sleep usually lasted four days, and the entire treatment about two weeks, the doctors stated. Following such therapy, 16 patients previously unrelieved by the standard drug treatment were maintained seizure-free. Five patients improved 75 per cent and four patients improved 50 per cent; there were no failures.

Continuous special nursing care was provided during the intensive treatment period. Anticonvulsant drugs found most helpful were given to the patient upon awakening and for home use following recovery.

Examination of Abdomen Aided by Peritoneoscope

Peritoneoscopy is a valuable procedure in the diagnosis and prognosis of cancer involving organs in the abdominal cavity, it was reported in a recent *A.M.A. Journal.*

A peritoneoscopic examination consists or making a small incision in the abdomen and inserting an optical instrument which permits the lighting up of small areas of the abdomen. A system of mirrors in the instrument permits the physicians to see the illuminated areas.

Results of 660 peritoneoscopic examina-

—Continued on page 110a

A NEW
NON-CONSTIPATING
HEMATINIC

duotinic®

multiple use hematinic with dove-tailed formula

contains all the known essential building blocks for regeneration of hemoglobin and red blood corpuscles

IRON AND WHOLE LIVER
provide a multiple source of hemopoietic factors, particularly valuable for patients refractory to simple oral iron therapy.

FOLIC ACID + VITAMIN B_{12}
an important metabolic link in the maturation of red blood cells.

VITAMIN C
facilitates conversion of Folic Acid to its physiologically active form, Folinic Acid. Also aids in the utilization of iron.

WHOLE STOMACH SUBSTANCE
for its potentiating factor which promotes the absorption of ingested vitamin B_{12}.

HOG BILE EXTRACT
as a mild laxative without purgative action, and for its catalytic role in the absorption of iron.

FORMULA:
Each Duotinic Capsule contains:

Ferrous Sulfate (Exsicc.)	200 mg.
Vitamin B_{12} U.S.P.	10 mcg.
Folic Acid	0.375 mg.
Ascorbic Acid	50 mg.
Extract Hog Bile (Desiccated)	100 mg.
Whole Stomach Substance	100 mg.
Desiccated Liver NF	100 mg.

Supplied: Bottles of 100 capsules.

Dosage: 1 capsule t.i.d. in iron deficiency anemias; in other anemias as directed by the physician.

IVES-CAMERON COMPANY, INC., 22 East 40th Street, New York 16, N. Y.

—Continued from page 108a

tions performed during a three-year period were described by Drs. Samuel J. Zoeckler, Philip G. Keil and George J. Hegstrom, Des Moines, Iowa. The patients included 84 with known or suspected cancers. Peritoneoscopic examination showed:

1. Cancer had spread to other intra-abdominal organs in 20 of the 39 patients with a clinical diagnosis of carcinoma.

2. Nine of the 18 patients who had previously removed cancers and in whom the presence of recurrence or spreading was suspected were found to have metastases.

3. Clinical diagnosis of cancer was proved incorrect in 27 patients.

Peditoneoscopic examinations in many instances eliminate the need of laparotomy, a more extensive exploratory abdominal operation which is commonly employed to determine the cause of abdominal masses and unexplained collections of fluid in the peritoneal cavity, the doctors stated, adding:

"Peritoneoscopic examination affords excellent visualization of the organs within the peritoneal cavity. The mortality is less than 0.1 per cent, and the procedure causes little discomfort. The patient may be hospitalized for one day or less.

"In the evaluation of intra-abdominal malignant lesions, the determination of operability is often difficult. A survey for metastatic lesions is readily accomplished by physical examination and roentgenographic studies. Since we began using peritoneoscopy as a part of our routine study of patients with suspected malignant lesions, 51.3 per cent have been spared laparotomy. In these cases a clinical diagnosis of carcinoma without evidence of metastases had been established.

"Peritoneoscopy is not intended to replace exploratory laparotomy. Like the roentgenologic and laboratory study, it is

—Continued on page 112a

—Continued from page 110a

an aid in the complete evaluation of gastrointestinal problems. It is a valuable procedure in the diagnosis and management of the patient with carcinoma."

Reports Welding Fumes May Affect Breathing

Welding fumes sometimes cause respiratory disorders which may necessitate a change in occupation, according to a recent report in the *A.M.A. Journal*.

Dr. Robert Charr, Philadelphia, a specialist in pulmonary diseases associated with the Jefferson Medical College, described seven cases of welders with breathing difficulties. The symptoms in three instances were sufficiently serious to necessitate a change in work, he said.

In welding, two pieces of metal are fused by means of an electric arc between an electrode and the metal. The electrode, usually of steel, gives off fumes containing minute particles of iron oxide. The electrode also is coated with varying materials. The fumes of fluorides and cadmium coatings are the most irritating, and there is reason to believe that chromium may be cancer-producing.

"Cough, expectoration, chest pain, sense of oppression about the thorax [chest], and hemoptysis [spitting of blood] with fever known as fume fever may develop as an acute reaction," he said.

"These symptoms subside on avoidance of exposure to the fumes. If the exposure is continued, roentgenologic changes in the lungs, such as exaggerated linear shadows and nodulation."

Dr. Charr reported that it is generally believed that these pulmonary changes are not disabling, but may be harmful.

—Continued on page 116a

in the treatment of Hypertension

Effectively

mannitol hexanitrate exerts vasodilator action and persistent relaxation of smooth muscle

New and Nonofficial Remedies: A.M.A. Council on Pharmacy and Chemistry, J. B. Lippincott, p. 243, 1953.

Safely

fewer side effects with mannitol hexanitrate . . . greater percentage fall in blood pressure

N. Y. Physician *31*:20 (Jan.) 1949.

Economically

combined medication that provides simultaneously:

vasodilatation (mannitol hexanitrate)
diuresis (theophylline)
sedation (phenobarbital)
capillary protection (ascorbic acid + rutin)

Semhyten®

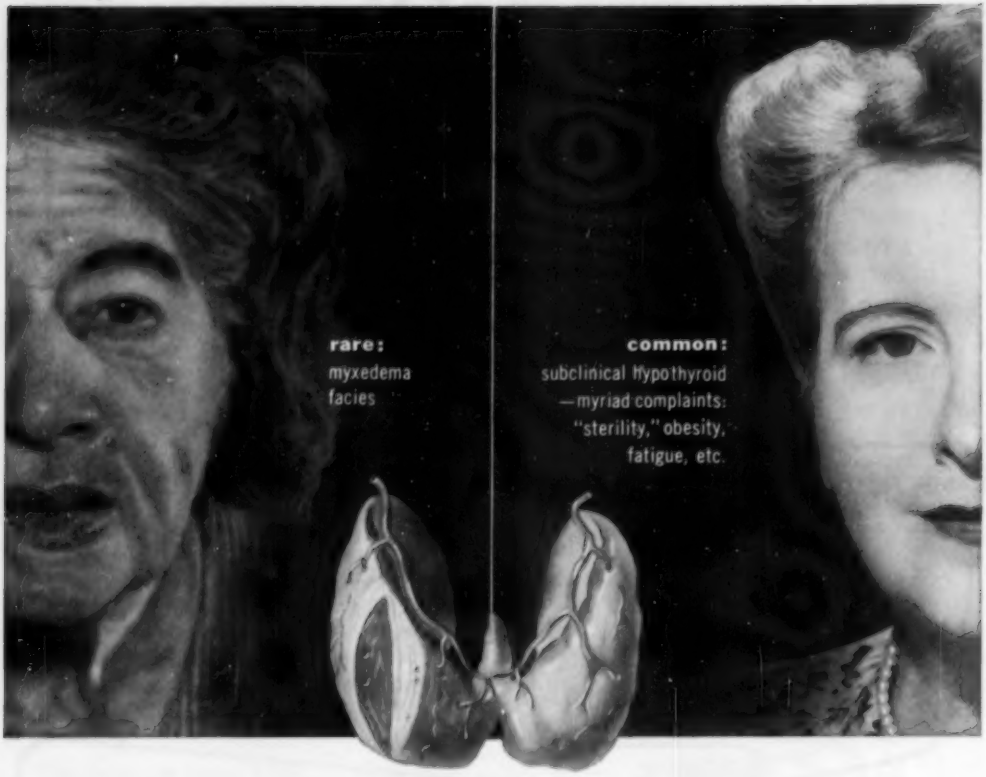
BRINGS THE PRESSURE DOWN SLOWLY  **SAFELY**

Complete Medication for the Hypertensive

Each Semhyten Capsule contains:		Phenobarbital	¼ gr. (15 mg.)
Mannitol Hexanitrate	½ gr. (30 mg.)	Rutin	10 mg.
Theophylline	1½ gr. (0.1 Gm.)	Ascorbic Acid	15 mg.

Supplied: In bottles of 100, 500 and 1000 pink-top capsules.

The S. E. MASSENGILL Company • Bristol, Tennessee



for subclinical hypothyroidism . . . predictable response

The patient with subclinical hypothyroidism can be given a course of Proloid therapy with assurance of an adequate and smooth response. Proloid potency is uniform, practically eliminating unknowing overdosage or underdosage due to potency variation — freeing therapy of disturbing ups and downs. This makes Proloid therapy easier to manage and evaluate. Prescribe Proloid — virtually pure thyroglobulin. It's assayed chemically, as well as biologically in test animals.

Proloid is prescribed in the same dosage as ordinary thyroid and is available in ¼, ½, 1, 1½ and 5 grain tablets as well as in powder form.

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the improved thyroid

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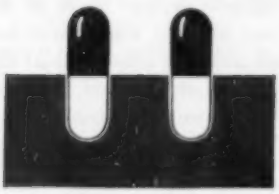
Laboratories NEW YORK

Restored to Working Efficiency

by the Antirheumatic and Analgesic Properties of

PABIRIN®

An effective salicylate response, adequate to relieve the discomfort of a host of arthritic and rheumatic affections, is readily produced by Pabirin. High blood levels are quickly achieved and maintained because of the inhibiting effect of PABA on salicylate excretion. Pabirin provides acetylsalicylic acid, widely regarded as the best tolerated and most efficacious of all salicylate compounds.



Higher Potency... Sodium-Free

Each Pabirin capsule now contains, in addition to 5 gr. each of acetylsalicylic acid and PABA, 50 mg. of ascorbic acid. Six capsules daily thus supply a full therapeutic dose of ascorbic acid to prevent an excessive drop in vitamin C blood levels. Because Pabirin is sodium-free, it can be freely given between courses of ACTH or cortisone therapy, as well as to cardiacs and hypertensives. Average dose, 2 or more capsules 3 or 4 times daily.

Each capsule now contains:

Acetylsalicylic acid	5 gr.
Para-aminobenzoic acid	5 gr.
Ascorbic acid	50 mg.

Pabirin is available at all pharmacies.

A DORSEY PREPARATION

SMITH-DORSEY
Lincoln, Nebraska
A Division of THE WANDER COMPANY

—Continued from page 112a

Warns Against Federal "Medical Supermarkets"

"A chain of federally-operated medical supermarkets," detrimental to the health and economy of the entire nation, is still in the making, Dr. Edward J. McCormick, president of the A.M.A., reported.

Speaking before the Rocky Mountain Radiological Society's midsummer conference, the Toledo (O.), surgeon called for a halt in the expansion of federal medical care for veterans with non-service-connected disabilities.

"Continued progress in medicine, as in any other field of free enterprise, is best achieved without interference from a highly centralized government authority."

"There still is a determined effort on the part of some special interest groups to foist upon the American people a national health program that would ultimately evolve into a chain of federally-operated medical supermarkets.

"Preferential treatment for veterans with non-service-connected disabilities cannot be continued indefinitely in view of the detrimental effect on the health and economy of the entire nation."

Dr. McCormick stressed that the American Medical Association does not seek to eliminate the well deserved, free medical care for veterans with service-connected disabilities.

"On the contrary," he said, "it seeks to improve the quality, availability and efficiency of such care by taking out of VA hospitals large numbers of patients whose disabilities would have developed even if they had not seen one single hour of military service."

He said that veterans' medical care and hospitalization benefits should be limited to: (1) veterans with peace-time or war-time service whose disabilities or diseases are service-incurred or aggravated, and, (2) within the limits of existing facilities, to veterans with war-time service suffering from tuberculosis or psychiatric or neurological disorders of non-service-connected origins who are unable to defray the expenses of necessary hospitalization.

The provision of medical care and hospitalization in Veterans Administration hospitals for the remaining groups of veterans with non-service-connected disabilities should be discontinued and the responsibility for the care of such veterans should revert to the individual and to the community.

Disease-Free "Islands" Are One of Greatest Mysteries in Modern Science

Disease-free "islands" are one of the greatest mysteries unsolved by modern science, according to Dr. Eugene H. Payne of Parke, Davis & Company, a leading authority on tropical diseases.

Speaking on the General Electric Science Forum over radio station WGY, he pointed out that even though it is surrounded by malaria-infested areas, one Brazil town of 15,000 people has been absolutely free of this disease for at least a century.

Dr. Payne related that a number of the land-islands free of disease have been found in South America. Some of these areas are void of heart disease and hookworm though adjacent sectors report many such cases. Similarly, he said, insanity is practically unknown to Bolivians.

He said that many theories have been developed as to why this immunity exists, but none has as yet been proven.

Synthetic Opiate Proved Effective in Gastroscopy

Meperidine hydrochloride, a synthetically produced opiate, has proved effective in facilitating examination of the interior of the stomach by means of a gastroscope, it was reported in a recent *Journal of the American Medical Association.*

—Concluded on page 118a

NEWS AND NOTES

—Concluded from page 116a

Sedation and analgesia produced by use of the drug are superior to results obtained by other drugs, and its use eliminates the necessity of topical anesthesia and its possible hazards, it was stated by Drs. Paul J. Cimoch and C. Wilmer Wirts, Philadelphia.

In a gastroscopic examination, an instrument is passed through the mouth of the patient into the stomach. This procedure requires complete relaxation and cooperation on the part of the patient. To obtain this and eliminate any pain attached to the procedure, many combinations of drugs have been used.

The doctors described the intravenous administration of meperidine hydrochloride one to three minutes prior to gastroscopic examination of 256 patients. Relaxation and cooperation were obtained in the majority of cases. Of the examinations that were unsuccessful, most were the result of physical obstructions.

Some patients suffered such side-effects as dizziness, nausea and light-headedness, but these reactions were "so minimal that they can be discounted."

"Feel Fit As A Fiddle After 40"

The caricatures of Don Herold—one of America's best known cartoonists are widely enjoyed. Don Herold, by his own admission, has reached the stage of life (past 35) which medical men call *Geriatrics*. So, out of the fullness of his own life and his quenchless optimism, he's written a little essay on the subject "Feel Fit as a Fiddle after 40." Its written for the layman and its philosophy should help the profession in "selling" the patient on a sound diet, and sound muscles for our "senior citizens."

This booklet is distributed by the Knox Gelatine Company of Johnstown, N. Y.

A record you can be proud of . . .

Since 1934, the nation's infant mortality rate has been cut by about one half. Important reasons for this remarkable decline include widespread use of chemotherapy, increased use of immunization, greater use of hospitals for confinement and illness, extended prenatal programs, improved infant feeding and care.

A principal factor in this record of progress is the unique cooperation in America between medicine and industry in doing and sharing scientific research, in the application of research findings to expansion and improvement of medical facilities—the tools and apparatus—the knowledge and service which contribute to public health.

That's one reason so many physicians favor Pet Evaporated Milk. They know, of course, that Pet Milk is good milk for babies. They know, too, that the Pet Milk Company stands for and aids the kind of research and service that make this a better and safer world for babies.

FAVORED FORM OF MILK FOR INFANT FORMULA

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Assistants	Books
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CLASSIFIED ADVERTISING FORMS CLOSE 15th of PRECEDING MONTH. If Box Number is desired all inquiries will be forwarded promptly. Classified Dept., MEDICAL TIMES, 676 Northern Boulevard, Great Neck, L. I., N. Y.

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FOR RENT—to G.P., in beautiful new Doctors Building in Lubbock, Texas, 3 room suite of offices. Share beautifully decorated reception room with Internist and Surgeon. Also share receptionists, office and laboratory facilities. Unequipped X-Ray room available. Write to Warren B. Poole, M.D., 3020 34th Street, Lubbock, Texas.

FOR RENT—deceased physician's office, waiting and consulting room completely furnished, examination room partly. Physician had 30 years general practice. Good neighborhood and transportation facilities. Excellent opportunity to start practice. Write Mrs. O. J. Beyer, 42 Laurel Ave., Irvington, New Jersey.

APOTHECARY JARS

Beautiful handmade and painted jars, imported from Germany. Wide assortment of styles and sizes. Rich colors. Ideal for office decorations, lamp bases, as vases, for mantel pieces, as gifts, etc. Limited supply, so order now. For complete details write Box 1W, Medical Times.

MEDICAL TIMES, JANUARY, 1954

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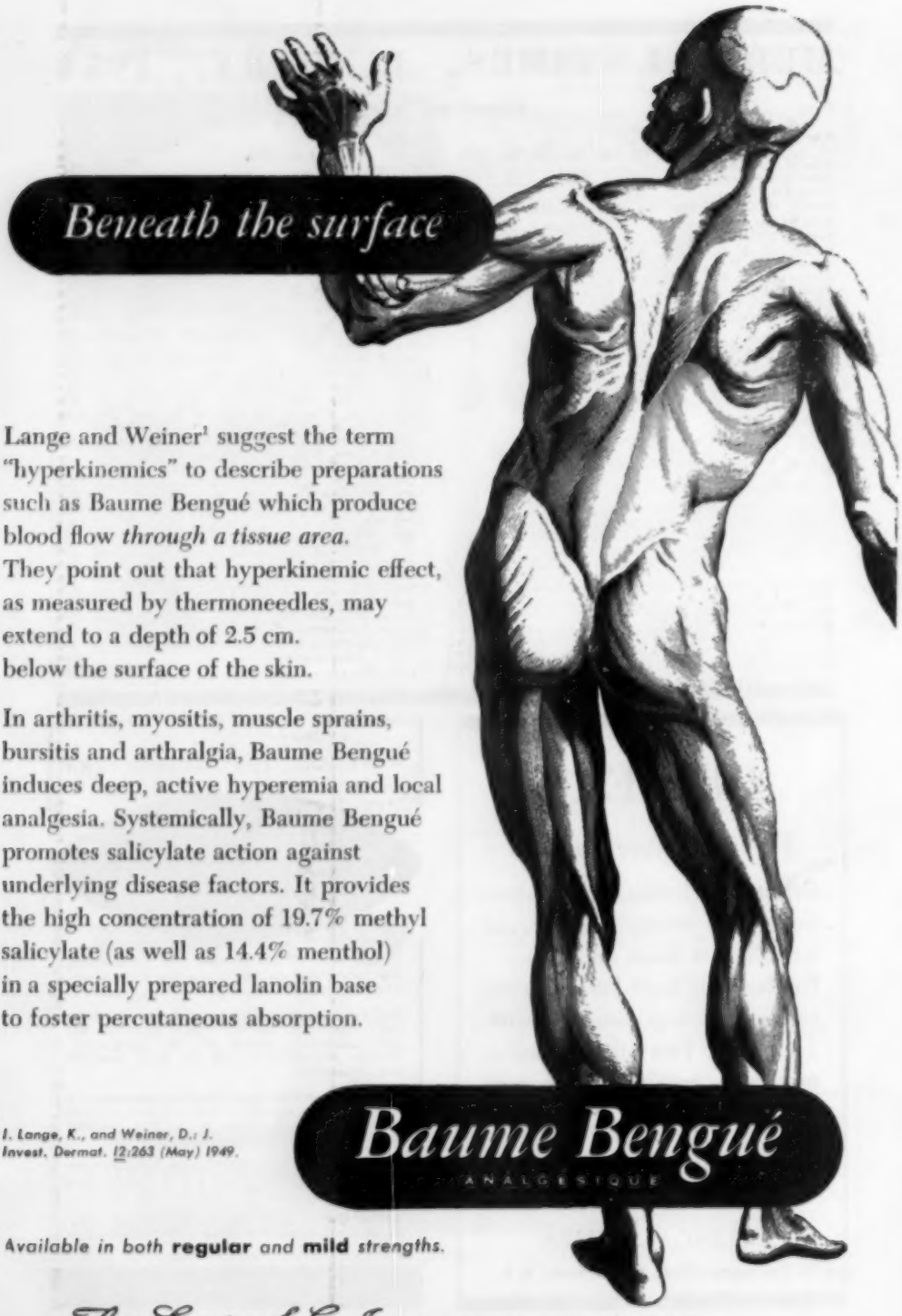

Beneath the surface

Lange and Weiner[1] suggest the term "hyperkinemics" to describe preparations such as Baume Bengué which produce blood flow *through a tissue area.* They point out that hyperkinemic effect, as measured by thermoneedles, may extend to a depth of 2.5 cm. below the surface of the skin.

In arthritis, myositis, muscle sprains, bursitis and arthralgia, Baume Bengué induces deep, active hyperemia and local analgesia. Systemically, Baume Bengué promotes salicylate action against underlying disease factors. It provides the high concentration of 19.7% methyl salicylate (as well as 14.4% menthol) in a specially prepared lanolin base to foster percutaneous absorption.

1. Lange, K., and Weiner, D.: J. Invest. Dermat. 12:263 (May) 1949.

Baume Bengué

ANALGESIQUE

Available in both **regular** and **mild** strengths.

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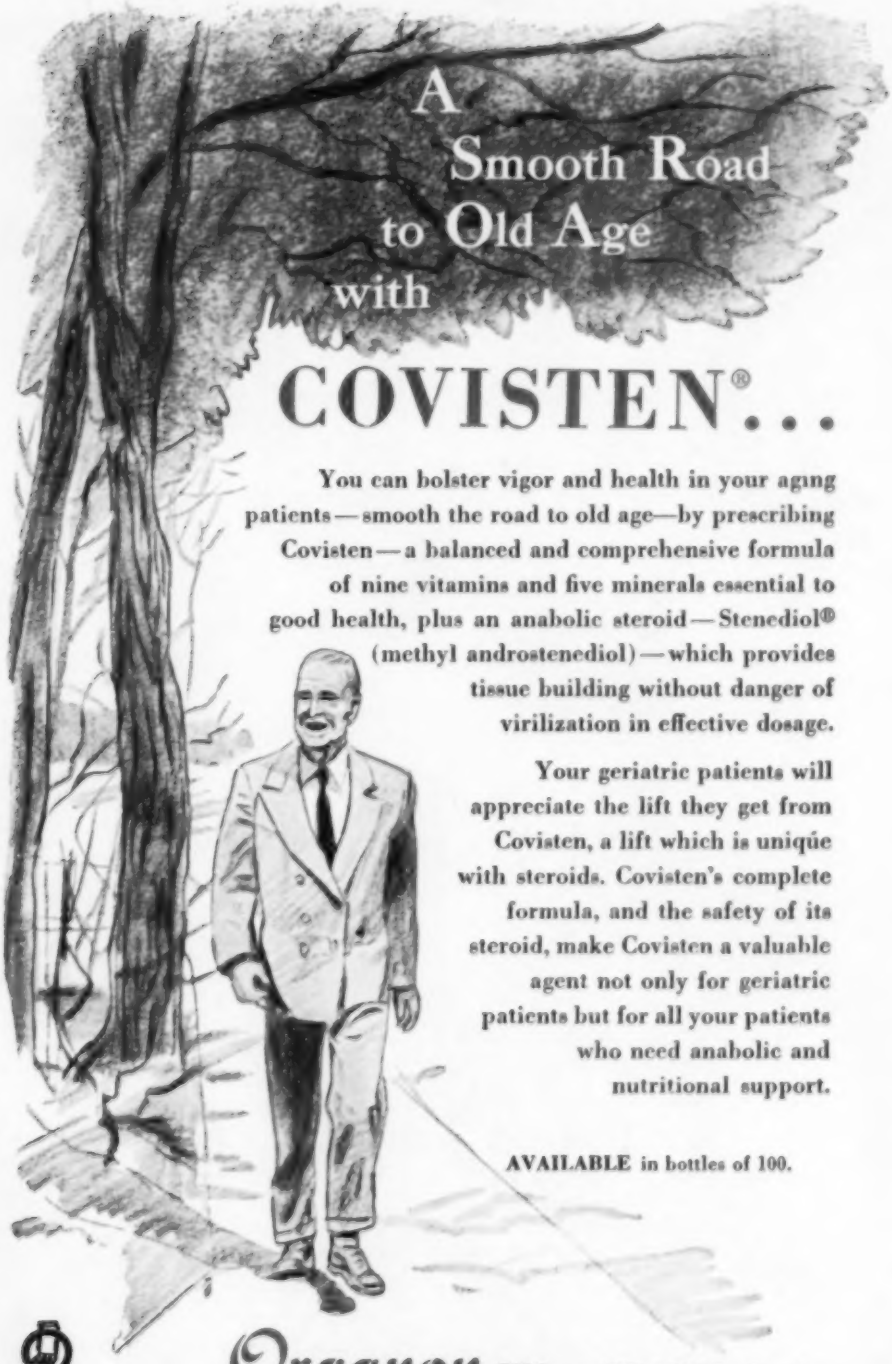

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Your geriatric patients will appreciate the lift they get from Covisten, a lift which is unique with steroids. Covisten's complete formula, and the safety of its steroid, make Covisten a valuable agent not only for geriatric patients but for all your patients who need anabolic and nutritional support.

AVAILABLE in bottles of 100.

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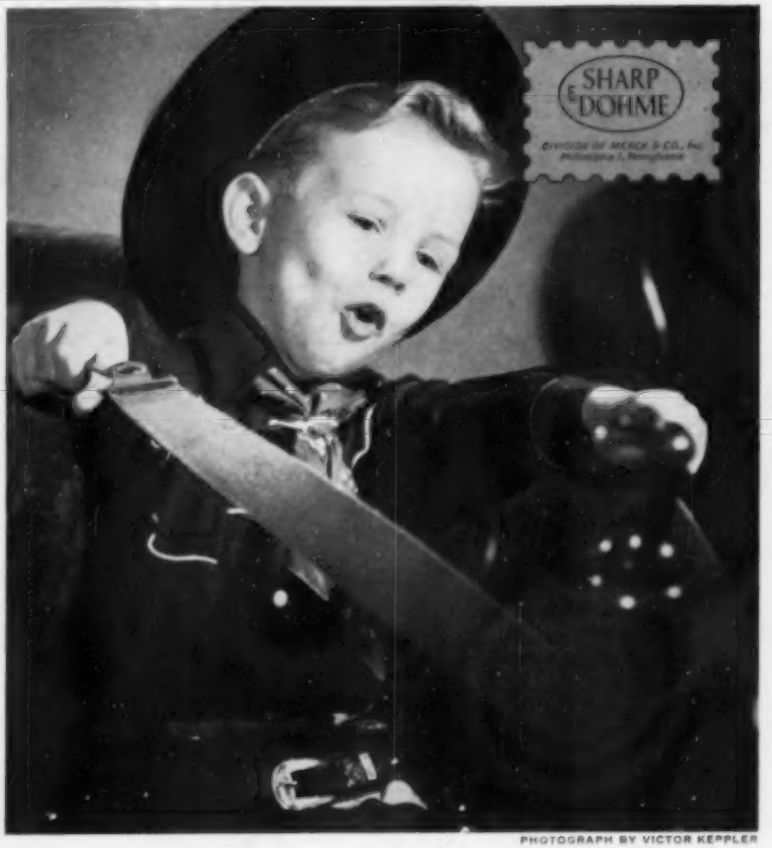

PHOTOGRAPH BY VICTOR KEPPLER

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TRIPLE SULFONAMIDE WITH PENICILLIN

For rapid recovery from susceptible infections, prescribe PENTRESAMIDE, the established antibiotic-sulfonamide therapy.

Four potent antibacterial agents combine to produce a synergistic effect, broader antibacterial range, minimal bacterial resistance, reduced toxicity

Quick Information: PENTRESAMIDE-100 and PENTRESAMIDE-250 Tablets provide in each tablet 0.1 Gm. sulfamerazine, 0.2 Gm. each of sulfamethazine and sulfadiazine, with either 100,000 or 250,000 units of potassium penicillin G. Dosage schedules will be sent on request.